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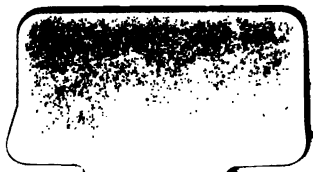
HAND-BOOK
OF
MECHANICS' INSTITUTIONS
—
SECOND EDITION.

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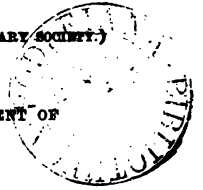
H A N D - B O O K
OF
MECHANICS' INSTITUTIONS,
WITH
PRICED CATALOGUE
OF
BOOKS SUITABLE FOR LIBRARIES
AND
PERIODICALS FOR READING ROOMS.

PREPARED FOR THE YORKSHIRE UNION OF MECHANICS' INSTITUTES,

By W. H. J. TRAICE,

(FORMERLY SECRETARY TO THE LEEDS MECHANICS' INSTITUTION AND LITERARY SOCIETY.)

AND PUBLISHED WITH THE SANCTION
OF THE COUNCIL OF THE SOCIETY FOR THE ENCOURAGEMENT OF
ARTS, MANUFACTURES, AND COMMERCE, LONDON.



SECOND EDITION,
THOROUGHLY REVISED, WITH MANY VALUABLE ADDITIONS AND EMENDATIONS.

L O N D O N :
LONGMAN, GREEN, LONGMAN, ROBERTS, AND GREEN.
1863.

200. / p. 110.

HAND-BOOK

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PREFACE TO THE SECOND EDITION.

SINCE the publication of the First Edition of the Hand-book of Mechanics' Institutions, many important changes have taken place in the mode of management, much valuable experience has been gained, and very great additional stimulus has been given to mental improvement, particularly in adult instruction in Evening Classes, by the System of Examinations established by the Society of Arts, the Elementary Examinations by the Central Committee of Educational Unions, and Schools of Art and Science Classes by the Department of Science and Art at South Kensington. Under these circumstances the Central Committee of the Yorkshire Union of Mechanics' Institutes felt that a New Edition of the Hand-book, comprising the most recent information on the subject, was imperatively called for. The Priced Catalogue will be found a new list, comprising such books as may now be obtained, with the prices and names of the Publishers; the Appendix contains full information on the various schemes for testing the progress of instruction by periodical Examinations and the award of Certificates and Prizes; and it is hoped that not only the Committees of existing Institutes will take advantage of the many hints and suggestions made, but that in places where there is no Institute the want will no longer be permitted to continue.

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OBJECTS AND MANAGEMENT

OF

MECHANICS' INSTITUTES.

SOME years since a useful volume was published, entitled "A Manual for Mechanics' Institutions," which contained much general and some detailed information applicable to the formation and conduct of Institutions designed to afford persons in the lower and middle walks of life the means of acquiring knowledge, and commonly designated Mechanics' Institutions. Introduc-
tion.

In the period which has elapsed since the publication of that work, these Institutions have greatly increased in number, but this increase has not been accompanied by any marked improvement in organisation or educational appliances; and a conviction has become very prevalent, that, with the experience now accumulated, and the general acknowledgment of the value of these Institutions, it is most desirable to give them an improved and more practical character. It has, therefore, been considered that the Yorkshire Union of Institutes might avail themselves of the occasion of publishing a revised edition of their priced Catalogue of books suited for Institutional Libraries, to accompany it with a variety of information connected with the organisation and administration of the affairs of these societies. No attempt has been made to sketch the plan of a Model Institution, the object being rather to furnish to those who are establishing or managing associations of the kind, a collection of facts and suggestions, to be applied as circumstances, opportunities, or local tastes and resources may render prudent and beneficial. Perhaps many of the failures in these societies may be traced to the stereotyped form into which they have been moulded, and the neglect of proper adaptation to the peculiarities of a locality. Institutions
— Improved
character de-
sirable.

The several Institutions for affording the means of acquiring knowledge, whether by the aid of Lectures, Library, Reading-room, or Classes, or all these, have generally had objects which group themselves into two classes,—First, the promotion of moral and religious culture; second, the imparting instruction in the sciences and arts concerned in secular affairs, in the transactions of the counting-house, and in the labours of the workshop. Not Model
Institution
considered.

Institutions generally moulded according to circumstances.

There has been very rarely any concentration of purpose upon either of these objects in Mechanics' and Literary and Scientific Institutions, but a very discursive course has marked their career,—now tending to the exclusive study of physical science, and again to moral, metaphysical and literary, and occasionally religious inquiry. In short, the Institutions having been established on the common basis of diffusing knowledge, they have been moulded by the more influential and active members, and by the prevailing wants or tastes of the subscribers.

Period in which Institutional Teaching is of most use.

The interval between the period at which children usually leave school, and that in which, as youths and men, they become fully occupied with the duties and responsibilities of providing for themselves and families, and taking a recognised position in society, is peculiarly fitted for the acquisition of those branches of knowledge which have been imperfectly learned or wholly neglected at school, or to make further progress in studies already commenced, combining the daily maturing power of the understanding and reason with the exercise of the memory.

What may be done to supply early deficiencies.

If the intervals of leisure which fall to the lot of most youths and young men be improved even by those who have not received the blessings of early instruction, it is quite inconceivable to those who have not had the opportunity of witnessing it, what earnest application under wise direction, can accomplish. Thus, in the most mechanical, yet, perhaps, most decisive, of a young man's attainments in relation to advancement in position—penmanship, it is curious to notice the progress from the uncouth scrawl, produced with painful distortion of limb and feature, which perplexes and baffles the reader—the helpless efforts at orthography, and the oblivious disregard of the simplest rules of grammar, so common among young men who have had a very scanty measure of early schooling, or who have neglected for a few years to apply such knowledge as they have acquired at school, and to compare those uncouth efforts with the results of a few lessons of an hour each, when the system is good. The defects and deformities disappear, the crooked and cramped characters become symmetrical, parallelism takes the place of the vagaries of zigzag, angles and most irregular polygons settle into curves, and almost imperceptibly a plain and frequently a very good style of writing is obtained.

Importance of elementary acquirements to success in life.

If the very large number of young men whose prospects of advancement in life are blighted from their inability to write a fair hand, had any idea of what a simple matter this accomplishment is, with a little application under a good teacher, they would subdue the silly bashfulness which too often keeps them aloof from the class-rooms of a Mechanics' Institution, and sweep away so insignificant an obstacle to success in life. Spelling, if wholly neglected, is a much more serious affair; but if the pupil be sufficiently impressed with its importance, and with the necessity of becoming his own vigilant monitor, every scrap of matter carefully committed to paper strengthens the habit of accuracy, and increases the knowledge of orthography. Grammar is generally a most interesting study, and affords an excellent exercise for the memory and the reason.

Writing.

Again, Arithmetic, if accompanied, as soon as the rudiments are mastered, by a gradual exposition of the rationale of the processes, besides being of eminent practical value, is an admirable mental discipline, and one upon which young people generally will enter with as much gratification as profit. Steadily conducting the mind onward in the acquisition of knowledge, which, valuable in itself, has a further and, perhaps, higher value, as preparatory to a wider range of study, it is most desirable to make Geometry a subject of attainment,—the teacher giving the pupil, by the way, glimpses of those sciences whose phenomena only admit of a mathematical explanation, as Astronomy, Mechanics, and Optics. But such pursuits are apt, if followed too exclusively, to beget a neglect of, and sometimes a contempt for, other important and interesting classes of inquiry,—those which keep alive the intelligent sympathy with human concerns, and which subdue prejudices and foster circumspection in the formation of opinion. Hence we would encourage those studies which bring the light of history to bear on our views of the age in which we live, acquaint us with the results of the enterprise and observation of travellers in other climes, amongst other races of mankind, and under widely different forms of government, and thus enable the student to obtain a clearer and juster idea of the religious, moral, social, and political circumstances amid which his lot is cast. In short, a comprehensive course of elementary instruction should be given, such as every man ought to go through, to prepare him to fulfil his duties satisfactorily, to fit his mind to comprehend, at least, if not to improve upon, the mode of conducting any operations he is employed in; to habituate him to derive a considerable degree of pleasure from intellectual pursuits, and to endow him with the power to read such books as he may have access to, and the current literature of the day, with a deeper and truer insight, and, therefore, a greater interest and profit, than the uncultivated mind can enjoy.

Arithmetic.

Geometry.

Benefit of literary pursuits.

Hence we do not hesitate to say, with regard to persons not arrived at maturity, means should be provided in all educational Institutions which receive them, to give them this elementary course of instruction and discipline.

All such Institutions should provide elementary training.

Among the number of those who have had no opportunity of procuring this preparatory training, we have frequently noted with pity the chagrin and disappointment, the wounded self-esteem, and conscious incapacity of young men anxious to make their way in the world, and thoroughly sensible of the importance of applying science to practical uses. If they could only supplement the fragments of higher knowledge they have often obtained by strenuous efforts, with the elementary instruction that may be procured in a common day school, they might rank with that intellectual class with whom systematic knowledge enters as a vital element into all operations under their care. It should, then, be regarded as one of the primary duties of the directors of these Institutions, to ascertain whether its younger members possess a fair amount of elementary knowledge, and if not, to direct them as

Disappointment occasioned by prematurely beginning the highest order of studies.

Preliminary examination of Pupils.

to the classes to be attended, and devise means for superintending their progress. The mode of effecting this is matter of detail to be discussed presently.

Technical
Institutions.

Assuming that proper provision has been made for a sound preparatory system of instruction, we have next to consider whether Mechanics' Institutions are not bound to provide, as far as practicable, such special instruction as may have an important and valuable bearing upon the occupations of the subscribers.

The primary
object of In-
stitutions.

This was put forth as the primary object in the establishment of the London Mechanics' Institution, and many similar societies; it has been assumed that it is properly cared for in all such; it has been used as one of their strongest claims upon public support; and it is obvious that this special instruction should be an essential element in all Institutions of the kind, except where any peculiarity of constitution or circumstance warrants the omission. However imperfectly carried out by existing Institutions, the more special and scientific knowledge taught within their walls has been of inestimable service to thousands of the operative classes; but it has had to suffer from the serious drawback of working upon a body of youths and men, the majority of whom scarcely possessed the rudiments of school instruction; and hence, in the absence of any proper provision for supplying this preliminary want, the results could only be very defective,—like the abortive endeavour to polish a slab of mahogany rough from the saw-pit, or to fabricate razors direct from pig iron.

Value of
scientific
knowledge
to practical
men.

Its increas-
ing impor-
tance.

If it was important thirty years ago that the several classes of operatives should be well informed with respect to the principles concerned in the processes they assist in performing, this has become of more moment in every successive year; and now it is past all denial that not only the national character, but the commercial prosperity also of this country, may be jeopardised altogether by ignorant, as they may be advanced, promoted, and maintained by enlightened and thoroughly trained mechanics and artisans.

The Exhi-
bitions of 1851
and 1862.

The exhibition of 1851, among the many good things it effected, had this especial advantage, that it removed the scales from the eyes of all who were not wilfully blind to the fact, that the nations of Europe are contesting with us manfully for the palm of superiority, even in those articles in which we have been wont to flatter ourselves that we were and must ever be unrivalled. This competition for industrial superiority, not only in works of ornament and beauty of design, but in those which depend for their value upon their excellence for use, was still more evident in the International Exhibition of 1862, when foreigners boldly challenged rivalry with our own workmen—and in several instances not unsuccessfully—in the very fabrics and for the very qualities in which our own countrymen believed they were unsurpassed, if not unequalled. But the competition applies more directly to all that relates to ornamental art, and though in this there may be differences of opinion, there is no doubt that people have a great liking for foreign decorative work; hence, if these productions are at variance with good

Spirit of
emulation
which the
alleged su-
periority
of
Foreigners
should excite
in the Eng-
lish Artisan
and Manufac-
turer.

taste, it is quite clear that we should use all reasonable means to cultivate the true perception of beauty and propriety in the minds of the producers and the public. If, however, the preference given to foreign goods and patterns be well founded, it behoves us to disseminate a theoretical and practical knowledge of the principles embodied in such approved productions. Indeed, it would occupy volumes to follow in detail the advantages to every branch of manufacture, and to every development of ornamental design, that must accrue from the execution being confided to workmen not merely skilled, in the common sense of the word, but really conversant with the art and mystery of their occupation—familiar with the chief scientific laws practically related to the labours whence they derive their daily bread.

The ignorance of systematised facts or science is too often rather inculcated and encouraged, than made matter of regret, by the practical man; he cannot comprehend how any person can possess this knowledge without having it accompanied by a flippant and puerile desire to indulge in futile and wasteful experiments. Science appears to him only as a troublesome meddler, or else as a quack for ever puffing off new nostrums. He never seems to realise the fact that all science is based on the eternal laws of the Creator, and that the greatest novelty we can introduce is really only an attempt to reconcile our work with some principle as old, perhaps, as creation itself. He forgets, indeed, that it is but taking a leaf out of a book infinitely more antique than the “sermons in stones,”—aesthetics in marble—of Grecian and Roman architecture: yet these the most pertinacious devotee to the “practical” studies with entire faith; but they must become something more than a collection of patterns of capital, column, frieze, and pediment, before their teachings can promote works applicable to the wants and grateful to the taste of a people who, in their hearts, think comfort and beauty should be inseparable.

Erroneous
repugnance
of operatives
to science.

It is the habit of blindly following custom and precedent that forms the stumbling block to the progress of improvement, both with employers and workmen. They flatter themselves they are working from their own observations, whereas, like the Justice in Ben Jonson’s Bartholomew Fair, they see with other men’s eyes, hear with other men’s ears, and generally judge with understandings clearly not their own.

Blind res-
pect for cus-
tom.

Let inquiry be made of the “heads of houses” in the numerous processes connected with the imparting colour to textile fabrics, of wool, cotton, or silk, whether they understand the chemical principles engaged in those operations upon which so much of their character as manufacturers depends, and how few can pretend to a knowledge of these principles! On the contrary, implicit confidence is placed in the consummate knowledge of a dyer, who, notoriously, works by cunning recipes and the wisdom of his ancestors, too often decries all new colouring materials, or expedients, and shrinks from everything in the shape of novelty. Of course the experienced observation of one set of materials, and the conditions most favourable for their use, by men constantly employing them, imparts a most exact knowledge of their

Empirical
modes
of
procedure.

Value of
observations
by those uni-
ting theory
and practice.

specific qualities; and if this observation were assisted by scientific discrimination, it would yield numerous interesting facts, which might never transpire in the laboratory. But when some new material forces its way into the market,—such for instance as the many brilliant colours produced from chemical combinations with aniline, a substance extracted from coal tar,—old precedents are worthless; and if scientific knowledge had not come to the rescue, some of the most beautiful colouring materials known must have been lost to the manufacturers of textile fabrics.

Sir I. Newton on the Value of Science to the Mechanic.

Instead of pursuing this topic, we will quote the sagacious dictum of Sir Isaac Newton, on the practical value of scientific knowledge to the operative, contained in his letter to Hawes respecting the proposed amendment of the course of study at Christ's Hospital, upon which the Committee had requested the opinion of that eminent philosopher. The opinion has special relation to seamanship, but it is applicable to every occupation.

"Without the learning in this article (Mechanics) a man cannot be an able and judicious mechanic, and yet the contrivance and management of ships is almost wholly mechanical. 'Tis true that by good natural parts some men have a much better knack at mechanical things than others, and on that account are sometimes reputed good mechanics; but yet without the learning of this article they are so far from being so, as a man of a good geometrical head who never learnt the principles of geometry, is from being a good geometer. For whilst mechanics consist in the doctrine of force and motion, and geometry in that of magnitude and figure, he that can't reason about force and motion is as far from being a true mechanic, as he that can't reason about magnitude and figure from being a geometer. A vulgar mechanic can practise what he has been taught or seen done, but if he is in error, he knows not how to find it out and correct it, and if you put him out of his road he is at a stand: whereas he that is able to reason nimbly and judiciously about figure, force, and motion, is never at rest till he gets over every rub. Experience is necessary, but yet there is the same difference between a mere practical surveyor or gauger and a good geometer, as between an empiric in physic and a learned and a rational physician."*

Objections considered.

Perhaps, before dismissing this part of our subject, we should consider any objections likely to be raised to the general instruction of artisans in abstract science, and to the making this a characteristic of adult associations for diffusing knowledge. A common objection to the giving this instruction is, that it is apt to divert the attention from action to speculation,—from the positively useful to the hypothetical and possible. This, we apprehend, may be avoided by the mode of tuition, and by the frequent reference to the connection between science and the arts; and by such a course of general discipline as will fortify the mind against the cultivation of theory, in opposition to, instead of in alliance with, practice.

* Appendix to the "Correspondence of Newton and Cotes," p. 283.

Generally our own experience evidences, however, that the mechanic when he seeks in an Institution for information applicable to his business, is singularly contracted in his views, and impatient of every form of instruction but that having the most obvious and palpable bearing on his daily labours. Thus the joiner, mason, engineer, house decorator, cabinet maker, or other artisan, very rarely enters a class to study Euclid, but eagerly performs a few problems conducting to the attainment of the mode of setting out mouldings, centring arches, spiral work, &c., by what are, to him, empirical rules; and not only does he not seek, but he shrinks from being bored with instruction in the geometrical reasoning upon which all these practical problems are necessarily based. There is another, and, in some respects, much weightier objection, founded upon the disposition of the mind to apply at once all its crude acquisitions, and thus to beget the habit of perpetual and mischievous change and experiment; this must be guarded against by judicious culture and counsel. It will, however, be found that the greatest number of impracticable schemes, in the trying which men fritter away so much time and substance, emanate from illiterate persons, or from those having but a smattering of the special scientific knowledge requisite to light them on their adventurous path. These are among the evils which are apt to spring from the miscellaneous, often capricious, studies of young men, in other respects illiterate and uncultivated; but where both preliminary instruction and careful supervision mark the course of education, there need be no apprehension from this source.

Contracted views of the working class in relation to useful topics of study.

Superficiality.

It is a matter of regret that it has not hitherto been found practicable to make Political Philosophy a regular subject of study in these Institutions. But although this subject of Politics, as such, is forbidden, it is quite in the nature of things that the cultivation of the mind, and the expansion of its views and range of thought, derived from the lectures and the other modes of imparting information adopted in these Institutions, must have a powerful influence on the character of the members as citizens of a free country, rendering them circumspect and painstaking in the formation of opinions, and tending to make them temperate in the exercise of their privileges.

Political Philosophy.

There yet remains the large field of intellectual exercise lying between the regions of abstract and practical science and those of political and theological controversy, comprised in History, Poetry, Mental and Moral Philosophy, and Criticism. Some persons have entertained doubts as to the propriety of encouraging these studies by the class for whom Mechanics' Institutions have been established. But surely it is eminently desirable to encourage the cultivation of literary tastes among the frequenters of all such Institutions. He who has made great acquirements in physical science, but is unacquainted with the treasures which Homer, Virgil, Milton, Bacon, Shakspeare, Addison, Swift, and the other great labourers in the fields of literature, have bequeathed to us, will find that he has missed some of the highest and purest sources of enjoyment and moral culture: however he may be in

General Literature

advance in some respects, in others he lags as far behind, and especially in those tastes and attainments which minister so largely to the enjoyments of social intercourse. A boorishness of manner, and a scarcely concealed contempt for literary pursuits, may be sometimes observed among the most diligent and successful students in the sciences at Mechanics' Institutions. Such a mistaken depreciation of the amenities of literature must in many ways interfere with their opportunities for applying their scientific knowledge to advantage, either as regards themselves or society. But we take higher ground; we hold that the moral and intellectual growth of the man is of infinitely more importance than increasing the skill of the mechanic; and we believe that the imbuing the mind with a love of literature tends to its elevation, strengthens and expands its faculties, deepens and enlarges our human sympathies, and ennobles physical science, by regarding it as part of a glorious whole, instead of treating it as a thing apart from the proper objects of human affection.

Science and Literature erroneously thought at variance.

Elevating tendency of Literature.

Dr. Playfair. Literary studies of the Polytechnic School of Dresden.

With respect to the advantage of devoting a moderate share of attention to literary exercise, Dr. Playfair, in his remarks on the course of instruction in the admirable Polytechnic School of Dresden, says:—

"It will be observed, with some surprise, that the native language, German, forms a part of the instruction even in the highest class; and the reason given for this appears to be satisfactory. It was found that mere technical instruction was apt to contract too much the views of the students, and that they had little inclination afterwards to subjects of general interest; but now, through the German class, the students are kept interested in history and polite literature, so that they go out from the school not less instructed technologists, but more cultivated men."

Classes.—Pupils to confer with some one in authority.

In proceeding to sketch the organisation of the Class department, we premise that all persons under eighteen years, entering an Institution, should confer with the Secretary, or other officer appointed for the purpose, who should ascertain as far as possible, the attainments of the applicant, his occupation, and his object in joining the Institution. If he prove to be deficient in elementary education, he should be immediately admitted to the Classes for reading, writing, and arithmetic, and be introduced to the masters for the purpose. A specimen of the writing, accompanied by an outline, in a tabular form, of the actual mental condition of each pupil at his entrance, should be kept by the examining officer, and, at stated intervals, be compared with the stages of progress made by the young man. The stimulus which such a system proposes is needed with youths in other respects their own masters; it would be a check, too, upon the teachers, and show the pupils they were well cared for. The plan of elementary instruction should comprise reading, writing, spelling, the rudiments of English history and geography, and arithmetic; perhaps it might not be convenient to go beyond the four rules, with simple proportion and vulgar and decimal fractions; a portion of Euclid would prepare the mind for more advanced geometrical studies; the rudiments of linear and free-

Register of attainments at entrance and at intervals.

Plan of Elementary instruction.

hand drawing should certainly be taught, and, if possible, there would be a great advantage in giving the pupils some insight of natural philosophy and chemistry.

It is assumed in all this that the pupil puts himself entirely under the direction of the Institution, and attends as often as required. As the pupils will rarely be able to come at any period but the evening—and, indeed, on any terms they are likely to pay, day instruction is beside the question—we cannot hope to realise at present, and in connection with these Institutions, the admirable course of instruction now accessible to the youth of Prussia, Saxony, Bavaria, and other continental states. Those establishments can only have their precise archetype here in colleges suitable for the sons of a class of persons who can afford to employ three or four of the years commonly devoted to trade apprenticeship, to the getting the young men initiated in a mass of systematised knowledge of inestimable value. We have to deal with those who are engaged in manual labour all day, and who can only come to us at night. This is the general idea on which our Institutions, so far as they in any measure partake of the nature of schools or colleges, are constituted, and except perhaps in our largest towns, it can hardly be supposed that establishments can be maintained for carrying out the technical training of adults during the usual working hours of the day. The number of those desirous of submitting themselves to this systematic training, and possessing the means of maintenance and of paying for the instruction, will be, relatively to the population, very limited. It is a question to be dealt with on its own very important merits. It has been well discussed in the practical and philosophical lectures delivered to the School of Mines, and is, no doubt, ripe for solution in the metropolis and the large centres of manufactures. The engineering department at King's College, and the corresponding course of instruction at University College, London, have made great way toward affording examples of what is wanted, and the mode of effecting it; and the admirable programme of the School of Mines gives a type of what should be done where specific objects are contemplated. In a paper intended as much for the societies established or in course of formation in the smallest towns and villages, as for those on a larger scale, to canvass in detail a national project requiring so much knowledge, and, directly, only applicable to a very limited extent to the classes who will and must constitute the bulk of the members of these societies, would be beyond our province. Were it possible to have Polytechnic Colleges established in Birmingham, Manchester, Newcastle, Leeds, Sheffield, and other large towns—each of these places, in its peculiar department a workshop for the world—to which youths and young men could resort from the neighbouring districts, this alone would prove a great stimulus to them to avail themselves more thoroughly of local appliances, and excite a demand that these should be provided better and in fuller measure than they have existed hitherto. There is an analogous movement in connection with the local Colleges associated with the University of London. Aspiring, studious, and clever young

Pupil to submit to guidance in his course of study.

Evening instruction only practicable.

Mechanics' Institutions not like German Industrial Schools.

Local facilities for Collegiate Instruction.

men, who would have been appalled at the expense, and staggered at the ambitious design of going to Cambridge or Oxford, and who cannot give up the whole of their time to learning, are enabled to secure the due recognition of their requirements at a neighbouring local college, and at the necessary stages of their progress to matriculate and graduate at the University of London. It is only the periodical intervals of leisure in the life of the man who earns his bread, which the Mechanics' Institution can hope to provide for by any course of instruction; but if this be done efficiently, the entire class could be raised in mind, mechanical skill, and social respect, in a few years. Whatever instruction is given should have a well-defined object; it should not be limited to merely teaching the use of tools, but should enlist the pupil's attention with the assurance that every step helps to make a better and more useful man of him, and ensure that his thinking and reasoning powers are cultivated as well as his memory. It is desirable that each youth who has been a pupil in the preparatory department, should receive a certificate of competence for admission into the upper classes. We do not think it necessary to prescribe either the items or the limits of the preparatory course which it may be found prudent to adopt; these will vary with circumstances and the means of conveying instruction at command: all we would urge is that it be methodical, neither fragmentary nor disproportioned in the advances made in its several divisions. For example, we would not merely discourage, but absolutely prohibit, a young person from attending to arithmetic for a time to the neglect of reading and spelling, or to grammar to the neglect of arithmetic, and so on; we would not suffer an aspiring genius to be admitted to a French or German Class, while yet incapable of writing a letter in his own language correctly either in orthography or grammar. Nor would we allow an indiscreet attachment to one branch of study to engross the attention of the student, to the prejudice of other acquirements of equal or greater importance. The mind, like the body, should grow altogether.

What Mechanics' Institutions can effect.

Instruction should have a defined object.

Certificates of each stage.

Instruction to be methodical and comprehensive.

Class Lectures for general information.

In this preparatory stage, the teachers will be too fully occupied in the educational details of the classes, to give much attention to the initiation of the pupils in the science of observation and general mental discipline, but courses of short lectures, occupying from twenty minutes to half an hour each, might be given with great advantage. These lectures might comprise such subjects, necessarily very familiarly treated, as might be comprised under the axiom "Knowledge is power,"—the means of acquiring knowledge, generally, by reading, observation, and reflection,—the art of observation, as resolved into the recognition of resemblance and difference in relation to some pre-existing idea, &c. Such topics would enable any sensible man, of even moderate scientific attainments, to give a most interesting exposition of the philosophy of mental acquisition. All this would serve to bring scientific knowledge somewhat more clearly into view, and enable the teacher to show the pupil that, while science gathers her riches from the most sublime operations of nature, she gratefully accepts and

treasures with the nicest economy the most trifling occurrences ; that she weighs a sovereign suspected to be curtailed of its fair proportions by the same laws that she discovers the weight of a planet balanced in space ; and that there is not a function of our bodies, an act that we perform, in play or work, that is exempted from the operations of universal law, or incapable, if rightly examined, of adding to our stores of knowledge. We want the mind to acquire an aptitude for exact observation as early in life as possible, and no means are so likely to foster it among the young people in Mechanics' Institutions, as familiar courses of addresses or lectures such as proposed.

In the business of class instruction it will be found highly conducive to success to separate the boys from the men ; it is apt to be disagreeable and humiliating to the latter to sit on the same form with lads who may be their superiors in the studies of the class. Moreover, the discipline for juniors is not equally suitable for seniors, and, indeed, the mode of instruction may often be modified advantageously to fit it to the pupils. With the boys the memory may be largely employed without constant reference to the reason. With those of mature years, the reason must be constantly brought to the aid of the memory.

It is very common in Institution classes to have several studies proceeding concurrently in one room ; this is often a matter of necessity, but should be avoided whenever practicable.

Another point of considerable importance in the class economy, consists in classifying pupils according to their attainments ; to do this properly requires either several classes meeting at separate hours, or additional teachers. The experience of Huddersfield, essentially an educational Institution, warrants the belief that gratuitous assistance may be procured to provide for this desideratum. It is there the practice, as often as classes become too large, or consist of pupils who cannot all move forward concurrently, to divide, and, if necessary, subdivide them, so that all may receive proper attention. An experienced teacher taking general charge of the instruction, is enabled to allot to any assistant the division he is qualified to take. Upon this footing, and with a sort of limited responsibility, it is not found difficult to obtain valuable gratuitous aid to the required extent. This provides a remedy for two embarrassments commonly suffered by Institutions,—thus, it is often difficult to pay qualified instructors ; but if too much reliance be placed on gratuitous teachers, they are apt to be more or less inefficient or liable to irregularity in their attendance ; and either of these disqualifications militates against the success of class tuition ; but the judicious union of paid and gratuitous service may be so employed as to provide for all ordinary exigencies. And at the same time that we look hopefully for a period when all the preceptors shall be paid by pupils' contributions, we must be satisfied for some time to devote our best energies to the exciting such a taste for instruction as may ultimately induce our youth to seek it earnestly, and pay the proper price for it cheerfully. In connection with the securing gratuitous assistance, it is of great importance to have some one or two who will superintend the in-

Classification of Pupils—Separation of men and boys.

Not Two Classes in one room simultaneously.

Huddersfield Institution — Gratuitous assistance—how advantageous.

Instruction should, ultimately, be properly paid for.

General Class superintendence.

struction, see that it is imparted properly, and undertake the duty of canvassing, from time to time, for parties to officiate as free teachers. Some compliment may be paid to such assistants by giving them the privileges of the Institution, and permitting them to attend any of the higher classes without paying a fee.

Free Tickets
to Gratuitous
Teachers.

There is too often an indisposition to give the earliest rudiments of instruction in Mechanics' Institute Classes, as these pupils necessarily take much time, to the detriment of those better qualified to advance in their studies. Now, if there is any class demanding our especial sympathy, it is those who are utterly helpless; and we would urge those who feel that it is so, to take care that means shall be provided to secure for them the initiatory steps: and if it be impracticable to devote the time of paid teachers to this purpose, we believe there will be little difficulty in obtaining unpaid teachers to undertake the task. Generally we would wish it to be understood that paid instructors should, as far as practicable, be secured in every department.

First ru-
diments of
instruction
shou'd be
provided for.

Subjects of
Study.

The Elementary Classes might be as follows, subject to the limitation or extension which local circumstances dictate:—

A Class for Reading aloud.

One for Writing, to be followed by Arithmetic.

One for Spelling by Writing from Dictation.

One for Grammar and Elementary Composition.

One for the rudiments of History and Geography.

One for Geometry and Mechanical Drawing.

Music, Draw-
ing, &c.

Such classes as Music and Free-hand Drawing may be introduced where the means exist for incorporating them with the elementary instruction, but everything likely to interfere with the formation of a good solid ground-work of primary knowledge should be avoided; the plan which seeks to bewilder a pupil with the range of his studies, and that which never looks beyond the purely mechanical items of education, are equally at fault. But the adherence to the steady course of tuition would be quite compatible with the delivering a series of short addresses or lectures on subjects calculated to awaken the mind and prepare it for superior acquisitions.

Too much
should not be
attempted.

Elementary
Examina-
tions.

A very important stimulus to the pupils of Elementary Classes would be given by the adoption of the Scheme for Elementary Examinations, prepared by the Central Committee of Educational Unions in connection with the Society of Arts, which will be found in the Appendix. The special object is to promote uniformity of action, and a fixed standard, so as to have a reliable test of the attainments of the successful candidates the same in all places, and this is accomplished by providing two sets of papers of questions, one suited for Junior and the other for Senior Candidates, the Examinations being held simultaneously, so as to ensure fairness as far as possible. A great advantage is that the Examinations are held at the Institute where the pupils are taught, the Certificates are awarded by a Local or District Committee, and, having a recognised value, may prove very serviceable to the Candidates, as well as a valuable preparation for the more advanced Examinations.

of the Society of Arts. They test the attainments and reward the exertions of those who are successful, they stimulate others to follow the good example set them, and they also serve to show to the public the usefulness of the Institute in Elementary Class instruction.

It is scarcely possible to lay down a definite scheme for the upper classes; it is not, however, difficult to indicate the legitimate object to be aimed at in forming them. In the first place, then, continuous well-balanced mental development; the formation of a tone and habit of mind prepared at all periods to receive information and recognise its relation to truth already mastered; an aptitude and relish for mental labour; a power of analysing and systematising evidence; a mind disciplined to meet obstacles in intellectual inquiry, and conscious that every unsuccessful effort to solve a problem reduces the possible number of the sources of failure, and commonly proves a stepping-stone to actual success,—as military writers tell us the bodies of the gallant assailants who fall in the first attempt to scale a breach often form a mound to enable their comrades to ascend to victory. These, rather hinted at than described or defined, sufficiently indicate the qualities to be cultivated fundamentally in the higher classes. The subjects to be taught might with great advantage be the same as those included in the Programme of the Examinations of the Society of Arts, held every year in the month of May, and for proficiency in which Certificates are awarded in three classes of merit, and Prizes in money are offered for competition. The Class instruction would be an excellent preparation for the Examinations, whilst the latter would efficiently test the attainments of the pupils and the quality of the instruction given them. The several subjects, the days of Examination, &c., will be found in the Appendix.

Upper
Classes—Ne-
cessary pre-
paration for.

Society of
Arts' Ex-
aminations.

The importance of these examinations as testing the attainments of the candidates in definite branches of study, the substantial advantages which have been gained by many successful students, and the healthy stimulus which is thereby given to many more to devote their energies to self-culture, can hardly be over-estimated. From one centre of Examination in 1856, and two only in 1857, the system has been extended until it is carried on over the three kingdoms, both Ireland and Scotland having produced several candidates of high standing. Nor need it be confined to its present limits. Wherever a Local Board can be formed, and candidates for examination can be found, the system, so admirably conducted and worked with so many beneficial results, may be carried on in new centres until it influences the adult education in all our Institutes.

Classes for the study of languages are often very successful. Up to a point which can only be determined, perhaps, by those engaged in conducting each Institution, the pupils should all go through the same course; and when that point is reached, those who desire a more technical course, should, as far as practicable, and without interfering with the general economy of the establishment, be provided for. But

Uniform
course
mental
of cul-
ture.

Technical
teaching not
to be carried
too far.

Classes for
Women.

Their Duties
and intellec-
tual wants.

Plain
Needlework.

Laws of
Health.

we must not lose sight of this principle, that the object of all such societies is to provide such an amount of culture as will qualify the student to proceed unassisted; and it seems to be a very unnecessary extension of their proceedings, to turn them into actual workshops or incipient manufactories.

There has, hitherto, been very little done to assist young women to improve themselves, but no Institution should absolutely neglect this important subject, and, whenever it is at all practicable, facilities should be provided for those who are to become the future wives of the young men respecting whom we have claimed so much attention in connection with class instruction. When we consider how rare it is to find a young woman in the humble walks of life (perhaps the adjective is superfluous) who has any practical idea of keeping a common account of receipt and expenditure, or who knows how much the economy of all households depends on a vigilant watch being kept on the encroachment of trifles, and when we reflect that women have usually an appreciable portion of every day either to employ in useful culture, or to be squandered on the laborious nothings but too well known to require enumeration,—it is much to be deplored that their education has not been more carefully looked after; and, we believe, it is needed more because they have not those direct incitements to study, or the acquisition of information of any kind, which often stimulate young men.

Perhaps the most important branch of knowledge for those young women who may be the future wives of our working men is plain needle-work, which has been too much neglected, particularly where employment is found in factories. The classes for instruction should be superintended by experienced women, and the work done should be the making and mending of ordinary clothing. It would be advisable also for some person to read aloud an instructive or entertaining book, whilst the pupils are at work, which is a great incentive to industry and regularity of attendance. The attainments of the pupils might be tested, and their improvement rewarded, by submitting them to the Elementary Examinations, as plain needle-work forms an indispensable portion of the Certificates granted to Female Candidates.

Besides this, however, some instructions should be given in the general laws of health, a subject, the total ignorance of which exposes females, and those under their charge, to incalculable suffering. Having the anxious care of infancy, with its natural and factitious ailments, it is notorious that women are the credulous recipients of every kind of empiricism, and but too often derange the health and even imperil the lives of those to whom they are bound by every tie of affection and duty, and this by the use or neglect of expedients which the most moderate acquaintance with the animal economy would have made them familiar with. We would particularly recommend all who feel an interest in this subject, and none can be really indifferent to it, to read the whole of Mr. Hole's searching and pointed observations upon it in

his Prize Essay on Mechanics' Institutions: the passage is too long to quote at full, and it would be mutilated by curtailment.*

Mr. Hole
on Female
Instruction.

The economy of food is another subject in which it is most desirable young females should acquire some practical knowledge. Instruction in this subject should embrace the relative nutritiveness and digestibility of the several kinds of food, animal and vegetable, and the mode of cooking, especially with a view to render them palatable and avoid all unnecessary waste. But there is great danger in dealing with alimentation in a dogmatic spirit; and many of the best treatises on its principles require a very free modification in practice; hence it should always be impressed on the minds of young women that they must use discretion, and cultivate and apply experience in the choice and preparation of food, so as to make both applicable to the recipient and the circumstances.

Economy of
Food.

In all cases it is to be desired that Arithmetic as taught to young women should have special reference to its uses in domestic matters: Mental arithmetic should receive particular attention, for promptitude in casting up prices in daily shopping is a safeguard against error and imposition, which every woman should possess. A simple plan of keeping domestic accounts and keeping the cash balanced should be taught, and impressed by a variety of exercises.

Arithmetic.

There are several subjects affecting general culture and development which it is scarcely desirable to prescribe for formal class instruction, but which may agreeably occupy an occasional lesson from a competent person. English Literature may be taken as an example, so treated as to excite a taste for other than novel reading. Hints on manners, conduct, true and false propriety, the management and early training of children, and the general principles of teaching, are all topics which may be dealt with advantageously with the same object.

General
Literature.

As regards the sum which the working classes will give for class instruction, we have the experience of the Huddersfield and Leeds Mechanics' Institutions quite in point; at the former 7d. per fortnight, at the latter 6d., is paid by the lads from the mills, apprentices, and others of the same rank in life; and while this may appear a heavy sum in many places, it is far below that which will pay for any considerable amount of advantage, but properly applied, and in connection with either gratuitous teachers or some aid from subscriptions or other sources, it may suffice to carry on an Institution. As, however, a very common rate of subscription in small Institutions is 6s., and in many even 4s. a year, it is obvious that the work of instruction must be carried on from motives of pure benevolence; and it is well that this should be clearly understood, that those who undertake the management of such societies should be prepared for the responsibility, and we conjure them not to shrink from it. Let them labour diligently to plant the seeds of useful knowledge and mature them for a season, and we do not despair of finding that, in due time the recipients of such instruc-

Subscrip-
tions — Ex-
perience of
Leeds and
Huddersfield

Ordinary
Subscrip-
tions too
low.

Instruction
will be paid
for when ap-
preciated.

* "Prize Essay on Literary, Scientific, and Mechanics' Institutions, by James Hole, Hon. Sec. of the Yorkshire Union of Mechanics' Institutes." (Longman and Co.)

tion will estimate it at its true worth, and be prepared to pay for it according to their means.

Day Schools Day schools in connection with Institutions have, practically, a very important relation to the successful development of a sound progressive education. Regarded, for the present, as simply auxiliary to the evening class instruction to youths and adults, they offer a most eligible mode of securing a staff of competent teachers for the preparatory, and in great measure, probably, for the advanced classes also; and this by a moderate addition to the salaries, in consideration of the devotion of two or three nights a week to this labour. This is no trifling matter when viewed in relation to the question of funds. There is another strong reason for having a Day School connected with Institutions of any magnitude: the boys may be so instructed as to prepare them for continuing their studies in the senior classes of the Institution, without passing through the probationary course prescribed for others; and it may be presumed that the methodical training of the school will have fitted them to enter upon a high class of knowledge without feeling it irksome, and without any trying effort. Considering that the operative, and even the less opulent of the shop-keeping class, have so little chance of making a good selection of a school, and that their attainments rarely qualify them to estimate the rival claims of establishments or systems, it appears to us that it is conferring a great boon upon these parties to provide an education for their children at a reasonable rate, and upon the soundness and practicable value of which they may have reliance.

Science Classes. In order to promote instruction in practical science by competent teachers in the Evening Classes of Mechanics' Institutes, the Department of Science and Art at South Kensington holds an Examination in the month of November of those who are desirous of undertaking the duty of Teachers, and grants certificates which entitle the holders to pecuniary rewards for teaching such classes. The rewards depend upon the results of the instruction given as shown by an examination of the pupils in the month of May. For further particulars see Appendix.

Lectures. Lectures, have, perhaps, received more attention, as constituting one of the modes in which these Institutions seek to impart knowledge, than

Attractive-ness in some Institutions. classes, books, or reading-rooms. There are many Institutions in which it would be difficult to keep up the subscriptions without a pretty liberal supply of popular lectures; there are others, however, in which

Complaints of indifference to Lectures. the complaint is always on the lips of the officers, and painfully recorded in reports, that the lectures provided are not attended or appreciated. And even in those societies where great expense is incurred to procure the services of men thoroughly qualified to impart information, the attendance is apt to be very precarious; and only when the subject presents something obviously interesting from the nature of the experiments or of the illustrations, can the presence of a large audience be expected, except, perhaps, in the instance of some very well known and popular individual occupying the platform. This arises, in a great measure, from the passive supineness of the bulk of the members, who wait for something exciting to draw them forth to listen to a lecture,

and who complain if it does not, without any effort on their part, stir their curiosity by its novelty, gratify their sense of elegance and propriety by its composition and delivery, or at least give information likely to turn to practical account, or leave pleasant reminiscences suitable to be retailed in conversation. This is an obstacle to the success of popular Lectures; but if people could only be induced to attend punctually even the most miscellaneous series of Lectures, allowing, too, a large per centage for the dull, the prosy, and abstruse kinds, there are few persons so well informed that they would not be repaid for the time bestowed, provided they attend in a teachable spirit, to gather all they can, and to listen as learners, not cavil as critics. From the very nature of the popular Lecture, it can never be a means of imparting any large amount of information; for the courses are not, and can scarcely be expected to be, of sufficient length to admit of their imparting any comprehensive or exact knowledge of the subjects they treat of. Supposing full courses to be arranged, they would, it is to be presumed, only be attended by those feeling a strong interest in the matters discussed, and where the members of a society consist of persons varying in age from fourteen to fourscore, and comprise those engaged in the most multifarious occupations, it is not likely that they will all be disposed to attend the exposition of a branch of science such, say, as Mechanics, Hydrostatics, Optics, Astronomy, or even Chemistry. But while the bulk of the people are wholly ignorant of the fundamental truths, the ordinary phenomena, and the well established laws of natural science, there is a great advantage in having these popularly explained and illustrated. A good Lecturer who makes a judicious selection of subjects, with ample facilities in the way of diagrams and apparatus, can give his hearers a great deal of information in nearly every department of physical science, if he even confine himself to those phenomena which may be exhibited directly, or referred to in our daily experience. Such information always enlarges the range of the hearer's ideas, quickens his desire for further knowledge, habituates his mind to the conception of the universality and constancy of the laws of matter, and at the same time may be traced in its practical relation to common things. Except in the instance of large Institutions, however, we would never counsel any great outlay for such Lectures. The mere transport of apparatus, and the travelling expenses of the Lecturer (for such gentlemen have generally to be brought from a distance), become most serious items, irrespective of any remuneration; and committees, in such circumstances, very naturally begin to ask whether the commodity has not been purchased too dearly, although its producer, jaded with travel, and the packing and unpacking of apparatus, to exclude all mention of an unsympathising audience, has scarcely received the amount of his travelling expenses in compensation for his services. It is a common practice to allow the members, often accompanied by friends, to attend the gratuitous Lectures without any charge in addition to the Subscription, but when a Lecturer receives a fee, all his audience,

Lectures always impart some information.

Long popular courses impracticable.

What can be effected.

Great expense in lectures of doubtful advantage.

Admission to Lectures—Free or by payment.

whether members or the public, pay for admission, the latter at a rather higher rate. Where this practice is adopted, its results are commonly very unsatisfactory, for the sums received for admission to the Lecture are apt to be taken as the expression of its value, and if it does not pay expenses it is considered a bad speculation, and not unfrequently the talent of the Lecturer is disparaged in consequence; whereas, so far as physical science is concerned, the people generally are not sufficiently informed to anticipate such advantage or pleasure from philosophical lectures as would induce them to pay specially to hear them. On the other hand, a Musical Lecture, or one of a merely entertaining character, will frequently reimburse all charges, and even sometimes leave a profit; but it is manifestly unjust to regard this as any evidence of the absence of intrinsic worth in the Lecture which proposed to give instruction; indeed, the comparison is degrading and humiliating to the scientific teacher. It is possible there may be instances in which it is necessary to have recourse to this practice, but it should only be adopted with circumspection, and whatever may be the allowable policy in regard to lectures chiefly or wholly designed for amusement, we think that those which aim at imparting real knowledge should be freely open to all the members. There is even some doubt about admitting the public, for if this prove the most attractive feature of our Institutions, people, instead of being regular contributors to the funds by membership, will only come when there is any entertainment likely to be worth the price of the admission. We hope the time may come when it will be practicable in every locality where there are a few thousand inhabitants, either in one place or several adjacent towns or villages, to find occupation for competent Teachers of the physical sciences, and who might be occupied in the day in giving Lecture lessons in Schools, and to private pupils, or to young men reading for the Universities or professions, while their evenings might be employed in delivering popular Lectures to the general body of Subscribers of Institutions, and in conducting classes through systematic courses of study. In the absence of such a Teacher, local gratuitous talent should be stimulated into activity. We have seldom known an amateur Lecturer on Science fail, if he only talks of what he really understands, and fortifies himself with sufficient means of illustration. The admirable series of diagrams published by the "Working Men's Educational Union," a list of which we append,* will be very useful in supplying this desideratum. And with the help of a handy joiner, turner, tinman, and smith, it is almost marvellous how much apparatus may be fabricated, adequate for most practical expositions. Add to this, the pleasure to the mechanic, to feel that he is thus contributing to the explanation of scientific truth; is in a manner admitted to a participation in the solemnisation of the mysterious rites of philosophy, and thus becomes a sort of lay priest in the temple of knowledge, and whenever appealed to properly he will ungrudgingly render his aid for such a laudable object as the making

Local scientific teachers wanted.

Gratuitous local services.

Apparatus made by local artisans.

* For a List of these Diagrams see Appendix.

apparatus for the purpose. Suppose the Committee of an Institution which cannot command paid services, were to arrange a few months in advance to have, say a Lecture on the Mechanical Properties of the Atmosphere, another on its Chemical Properties, one on Water, and so on, taking a few subjects for each season, and then to invite the most competent person or persons to prepare such Lectures, engaging to give them all the aid that could be procured in the way of specimens or apparatus; we are confident there is scarcely a village in England that might not be thus catered for. Professional men usually possess a general knowledge of the exact and experimental sciences, and would generally be ready to impart it if they could be furnished with the requisite illustrative appliances; and if the local artificers, at the instance of the Committee, were to set to work, they could supply the chief part of these, and the more refined and delicate apparatus might, in many instances, be borrowed for special occasions.

Gratuitous
scientific lec-
tures syste-
matized.

In General Literature, Poetry, History, the Fine Arts, and Moral Philosophy, there seems to be little difficulty in procuring Lectures which are really highly instructive, at the same time that they awaken thought, and enable the scholar and thinker to admit the masses to a participation in the luxury of intellectual exercise and recreation.* After all, there is no means so effective, none so prompt in its action, none which can be brought into play with more advantage, either to impart information, stimulate to exertion, or to encourage and give counsel to many simultaneously, as public speech; and the best Institution is apt to languish if it does not from time to time assemble its members to listen to an interesting Discourse or Lecture. In their place, popular Lectures, which may be listened to by people of all ranks in society, and nearly all ages, supply an important Institutional desideratum, and the only dangerous fallacy in connection with them is the expecting from them advantages only attainable in the Class-rooms and Library.

Lectures
on literary
topics easily
procured.

Subjects for
Lectures.

Oral
discourse—its
intrinsic
worth.

Much of the apparent want of appreciation of Lectures is owing to the irregularity of the times when they are delivered, and the consequent difficulty of preventing their clashing with other engagements, as well as of giving sufficient publicity to the announcements. To obviate this, a particular evening in the week should be selected, and arrangements made at the commencement of the season for the delivery of a lecture on that evening in each month. The same evenings of the intermediate weeks might be devoted to popular readings, by gentlemen in the locality, alternately with the meetings of a class for the reading of short original essays followed by discussion. For the popular readings each gentleman should be limited to half an hour, the works to be selected by the readers, and three on one evening would be found sufficient. The members should have free admission, and others should be charged one penny, with something

Regularity
of Lectures.

Popular
Readings.

* The list of Gratuitous Lectures appended to the Report of the Yorkshire Union; and that of the Manuscript Lectures, give an excellent idea of the variety of topics capable of illustration in a popular Lecture.

Discussions. extra for reserved seats.* The great advantage of this plan would be that the inhabitants would soon become familiar with the fact that on each evening selected, there would be a meeting at the Institution, either for a lecture, or readings, and discussion; and knowing this, they would make their arrangements accordingly, and very soon acquire a habit of attending regularly.

Season Tickets. Another plan, which has been found highly successful, is previously to the commencement of the Lecture period to canvass the inhabitants who are not members of the Institute to take season tickets—say 1s. each, and 2s. each for reserved seats. It will generally be found the means of securing a numerous audience, and thereby of obtaining a better class of Lecturers, whilst the money received will enable the Committee to make pecuniary engagements without much risk.

Knowledge of "common things." The importance of a "knowledge of common things," has, of late, been strongly urged on the promoters of education. The urgency deemed necessary in advocating its cultivation is an implied censure of the practice of devoting inordinate attention to uncommon things. But as every new discovery in physical science has a marked tendency to show how closely the obscure phenomena of Chemistry, Electricity, Magnetism, Heat, and Light stand related to common things, it often happens that what we might hastily dismiss as being most remote from the affairs of daily life, are really intimately, often vitally, connected with them. The redeeming "common things" from the thralldom of empiricism and vulgar terminology, and elevating them into their proper place amid the recognised manifestations of Divine law and order, is always one of the paramount functions of the Lecture-table and the Class-room, and should never be lost sight of even in the smallest Institution.

Amusement should be introduced with circumspection. Many friends of Popular Educational Institutions think that amusement should be offered very freely to the members. Admitting that recreation in some form is indispensable, it is, perhaps, questionable whether Institutions mainly established for instruction can, with advantage, undertake to provide sports and pastimes for their subscribers. But, where it can be done conveniently, there is obviously no evil consequences to be apprehended from the Committee lending their aid to the formation of a cricket club, or any other out-door amusement for the Summer season. And when there are facilities for the formation of choral classes, they are not only regarded by the pupils as an agreeable recreation, but they may be occasionally employed to entertain the general body; and if a good Reading Class be also in operation, the practice of recitation may be rendered a pleasant and even useful exercise, besides being sometimes called to the aid of music for meetings chiefly held for the enjoyment of harmless recreation. But we would warn Institutions to take heed lest these amusing occupations first engross all the attention of the young men,

Danger of amusements engrossing too much attention.

* For some valuable hints and suggestions on this subject, consult a small work by Mr. Charles Sully, entitled "Penny Readings in Ipswich and elsewhere," published by Simpkin, Marshall, and Co., London.

and then, losing the zest of novelty, leave them indifferent to all the high legitimate objects of the Institution ; or, on the other hand, grow to such importance as to take precedence of, or supersede, all other pursuits. It is a mistaken notion, but too commonly put forth as a truism, that people engaged in business all day cannot apply themselves to any kind of study, and have only aptitude for sharing in a little diversion or amusement. Were this the case, the very end and aim of a Mechanics' Institute, which proposes to turn the evenings to instructional account, must be ignored. But all Institutional experience proves that the working man who really desires to learn anything, comes to the evening class with his faculties fresh for the intellectual labour which is to him properly a recreation ; and wherever adequate facilities are offered to supply occupation for the evening in well conducted classes, with the requisite guidance and encouragement, it has been found that the pleasure of acquiring knowledge has rendered other pastimes superfluous, nay, mischievous. These cautions need not preclude the giving a Concert or other entertainment once or twice in a season, if there are facilities for the purpose ; but even then it is very doubtful whether the funds of the Institution should be so engaged. Committees may be readily seduced by apparent, but only temporary, success to pay more attention to the amusing than to the educational departments ; but to do so is to betray the high trust they have undertaken, and they will always find it easier to fall into this error than to retrace their steps when they have once entered upon it.

Change of
mental la-
bour, recrea-
tion.

Concerts.

The duty of
Committees.

The Committee of Management should never be large : responsibility scarcely exists when it is diffused among many persons. Freedom of thought and action, so far as these can be exercised in concerted operations, and subject to a proper amount of control, constitutes the vitality of a Committee. Independently of the collective deliberative functions of the body, every individual should have some special duty assigned to him, and thus an active interest and intelligent concern in the proceedings are sure to be kept up. In cases where an Institution can afford to engage the services of a competent Secretary, it is eminently desirable that he should be invested with considerable executive power and discretion ; that he should, in short, be constituted the general Superintendent and Director of all the details of the establishment, reporting to the Committee on its proceedings regularly, and acting under their sanction and authority. Where an Institution cannot command such qualifications in a paid officer as are desired, then one or more of the Committee, designated as Honorary Secretaries, should have substantially the same powers confided to them ; but, inasmuch as gratuitous labour is always liable to be intermittent, and its responsibilities can never be enforced with the same stringency as those of paid services, the Committee must not consider its active functions merged in those of its honorary representatives. Indeed, generally, we may state that vigilant supervision is always valuable, but all needless interference with the functions of the executive is apt to prove detrimental. The presence of members of

COMMITTEE
of Management
not
large.

Individual
action and re-
sponsibility.

Secretary
should have
executive
power.

Honorary
Secretaries.

Gratuitous
services fre-
quently ir-
regular.

Constant supervision. the managing body in the classes and Reading-room, or wherever the members are assembled, has always a salutary effect ; it not only keeps officers up to their duty, but it encourages them in its performance, and tends to inspire the members with confidence in the Committee. An audited statement of Accounts should be produced at every Committee meeting. It should include a statement of the Balance in hand at the last meeting, the Receipts and Payments of the intervening period, and the then Balance, with the amount of Debts owing or estimated for, and the probable means to meet them, together with the number of subscribers compared with the corresponding period of the previous year, and any other useful particulars. Generally such items, presented in the form of a summary or abstract, will, if the books be kept properly, require very little labour in preparing them ; indeed, the books themselves may be so arranged as to supply the chief facts at once ; but there is, nevertheless, an advantage in having a series of brief abstracts, as being so much more easy for subsequent reference and comparison. The preparation of an Estimate of Receipts and Expenditure, for each year, is strongly recommended as being the best mode of securing an equitable distribution of the funds, and guarding against hasty and improvident expenses. The estimate, as regards expenditure, should be considered as the standing guide, and only be deviated from deliberately where the circumstances fully warrant an increase or change of distribution.*

SUBSCRIPTIONS. The next point of consideration is to fix the rates of subscription so as on the one hand to make the Institution as much as possible self-supporting, and at the same time to bring its advantages within the means of the largest number of the population. It should never be forgotten that the prosperity of an Institution, like that of most other concerns, will depend very materially on its having a sufficiency of pecuniary resources, and that for these the chief reliance should be placed upon the aggregate subscriptions of the many, rather than upon the large donations of the wealthy few. The amount should be so regulated that poverty should hardly be an admissible excuse for non-payment, and the fact should be kept in view that the benefits of education, as of most other things, are more often appreciated by the cost than by the advantage to the receiver. In most country towns and villages a quarterly rate of 2s. 6d., payable in advance, would be found advisable, the subscriber being entitled to all the benefits of the Institution, including the reading-room, library, lectures, &c. Honorary members should pay not less than 21s. a year, and be entitled to the additional privilege of nominating a pupil of the evening classes, who should pay only 1d. a week. The means and habits of the working classes require that the payments should be *weekly*, and a much larger sum will be obtained from them in this way than in any other. In places where manufactures constitute the principal employment, the subscriptions of the pupils of elementary classes should be 3d. a week for males, and 2d. for females ; but in agricultural

* See Appendix for some Hints on Institutional Book-keeping.

districts where the use of a school-room can be had and the services of a competent teacher engaged, the payments might be 2d. a week for males, and 1½d. for females. Much, however, will depend upon local circumstances, and must be left to the judgment of the Committee.

But whatever be the rate of subscription, a collector and canvasser should be employed, and his duty should be to call regularly on the inhabitants, whether they are members of the Institution or not. Many a contribution is lost for want of being applied for, and to ensure the zeal of the collector his services should be remunerated by a liberal commission on his receipts. It may almost be advisable to offer a small prize to that member of the Institute who shall be the means of introducing the greatest number of new members. The prize might be a book, such as the works of Shakspeare, and the desire of obtaining it would no doubt enlist the active services of a number of young men who would use their influence amongst their companions and those of their own class. Many a young man who is desirous of class instruction is too bashful to apply for it, but might be induced by the solicitation of a companion to join the Institute. Canvassing.

There is one admonition in reference to the economy of the Institution which it behoves all Committees to keep constantly in view: whatever the Society professes to do, see that it be done really, and in good faith. It is too common to find Institutions promising their subscribers all the usual privileges, which, however, upon close scrutiny, resolve themselves into a cheerless apartment with a bench or two, called the Reading-room; a Library, consisting of a few scores of books, which offer no allurements to the ordinary mind, and are only accessible at inconvenient periods; a Class or two, in which very little can be learned, the Teachers being incompetent, listless, or irregular, and the pupils quite indifferent about their attendance or their studies; and Lectures, which, whatever their merits or faults, are incapable of awakening curiosity enough to attract an audience. Such an Institution—and we have known many such—is merely an imposition; it is often worse than useless, and obstructs the formation of something better. Committees, then, must regard it as a duty of paramount importance to see that an Institution fulfils its promises, and this with constancy, punctuality, and earnestness. Committees should keep faith with the public.
Institutions which are mere names.

Another element of prosperity is continuous publicity. However obvious the advantage of any new invention, it fails to excite attention or to obtain general adoption unless it is brought prominently before the public, and this is more particularly the case with an Institution which enlists the sympathies of those only who are desirous of self-improvement and makes little or no claim on popular prejudices—which offers no inducement to the mere pleasure seeker, but demands some amount, however small, of self-sacrifice and self-denial. The nearest local newspaper should be appealed to for the insertion of paragraphs as often as possible, and the prospectus of the Institution, stating terms, advantages, &c., with the programme of lectures and other proceedings, should be printed on a neat card and exhibited wherever practicable. The in- Importance of publicity.

habitants should be continuously reminded of the existence of the Institution, with its objects and means of obtaining them.

SOIRÉES.

Useful for
publicity and
friendly in-
tercourse.

Suggested
improve-
ments in.

Music, Read-
ings, &c.

Frequent
meetings for
promoting
friendly in-
tercourse and
mutual in-
struction.

EXCUR-
SIONS.

MUSEUMS.

Too costly
for small in-
stitutions.

BUILDING.

The periodical gatherings which, under the name of Soirées, have become so common, besides offering a means of publicity to the Institution, and for giving a popular statement of its claims to attention, have the further and most signal merit of promoting friendly social intercourse among the members. As it is customary to permit friends to take tickets on these occasions, a brief statement of the terms and benefits of the Institution, placed in the most familiar and popular point of view, should always be introduced. The addresses at these assemblies being usually confined to strictly institutional topics, they are apt to become tiresome from want of variety of interest; this could be avoided in a great measure by the presentation of the Certificates and Prizes gained at the Examinations, and by arranging to have a few short papers on subjects of Science, Literature, History, or Travel. Many gentlemen possessed of considerable information, who would shun speaking on educational generalities, would be enabled to select some subject that would be novel and interesting to a mixed auditory, and most agreeably diversify the proceedings. The services of a vocalist, a party of glee singers, or a band, are sometimes put in requisition, and quite unobjectionably, if they do not engross an evening designed for intellectual exercise and recreation. Readings from the poets are often introduced at Soirées, and generally with much satisfaction, always promising that they are tolerably well done. It is worthy of consideration whether more frequent meetings of a social character might not be held with great advantage: in many places such assemblies might take place about once a month. We do not propose the formidable preparations that usually belong to a Soirée, but a simple meeting of the members and their friends, when some provision being made among themselves for affording instruction and entertainment, a few select topics might become the subject of conversational discussion.

Among the more social proceedings of Institutions, may be noticed excursions to localities interesting from artistic or historical characteristics, or natural beauties. When these can be arranged at small expense, they may be rendered highly interesting; they greatly conduce to friendly intercourse, and may be made the means of imparting useful information.

General Museums occupy so much space for the proper display of a collection, and incur so much expense in the fitting of cases, that they require to be commenced with great circumspection. The illustration of local Geology may, perhaps, however, be admissible in most Institutions, and special conditions of aid or resources may determine the devoting attention and funds to such a department; but it must always be very carefully considered before it is called into existence.

The want of proper accommodation in which to carry on the several departments of a Mechanics' Institute is, perhaps, one of the greatest difficulties which has had to be encountered in the establishment and management of such Institutions. In some instances, no doubt,

there is a want of appreciation of the advantages to be gained by the acquisition of knowledge, and the cultivation of the mental faculties, and in some others a difficulty in obtaining competent teachers, particularly for Elementary Classes; but in the majority of instances these difficulties would be overcome if the Institute possessed a building adapted to its requirements.

It is not alone desirable that the proposed cost of a building should be ascertained in order that the required funds should be obtained; it is of equal importance that the structure should be adapted to the purposes of the Institute, in order that the operations of the several departments may be carried out as fully and efficiently as possible. It is through inattention to this point that in some places buildings have been erected which are but imperfectly suited for the objects in view, and the money expended has thus to a certain degree been wasted, whilst in a few instances the cost has been considerably greater than was absolutely necessary if due judgment had been exercised in the arrangement and construction, and the style of architecture.

Perhaps one of the most prominent faults is that of erecting a spacious Lecture Hall, with Reading-room and Library, while little or very inadequate provision is made for the accommodation of Classes, although Class-instruction should occupy the first place, as being one of the most important instruments by which the great object of social amelioration is to be accomplished, and mental and moral cultivation promoted. A Lecture Hall is, doubtless, a great advantage, but as a means of usefulness it is subordinate to a commodious Reading-room, well warmed and lighted, which might prove a counter attraction to the inducements which too often tempt young men to neglect mental cultivation for idle, frivolous, and often vicious amusements.

It is of the first importance that ample accommodation should be provided for Elementary Classes, and it is also highly desirable that, wherever practicable, rooms should be provided for the classes of a more advanced character, and those which are conducted upon the principle of mutual improvement. It has often been found that a good Class-room has been one of the chief inducements for the formation of a good class, whilst on the other hand the want of it has been the main, if not the only, obstacle to a class being formed. The desire for improvement is not always sufficiently powerful to induce the youth to submit to the inconveniences arising from the want of proper accommodation.

If a Lecture-hall be erected of moderate size, it might be used for the purposes of a Class-room when not occupied for Lectures. It might not only be adapted for Elementary Classes, but especially for the practice of vocal music. Its size should, however, be appropriate to the number of the population in the town or village, so as not greatly to exceed ordinary requirements.

Another most important point for consideration is the choice of a site, which should by all means be in a central situation, as convenient as possible for the great majority of the inhabitants, and with a good frontage, so as to make it a prominent object in the locality. If the

Class-rooms
preferable to
Lecture-hall.

Size of
Lecture-hall.

Choice of
site.

Committee have to purchase land, they had much better pay a little higher price for a good situation than erect a building in an obscure or inconvenient place. After the fatigues of the day's labour, there is rarely a very strong inclination to go far for mental improvement. Besides this, a Reading-room, well situate, may prove a great attraction to many quarterly subscribers, and a still further advantage is the publicity afforded by a prominent building, which is almost indispensable to success. At the same time it is most desirable to avoid a position where there is much noise, and where there may be frequent assemblages of people; as it is obvious that such a locality will occasion great disturbance of study, and often divert the attention of well meaning young men from the quiet occupation of the Institute, to join more exciting scenes elsewhere.

There are, however, many places in which no difficulty will be experienced in obtaining the grant of a site from the owner of land in the locality. A building for such a purpose, erected with some regard to taste, would prove an ornament to the town or village, and the gift of the required land would be but an appropriate act of munificence on the part of a wealthy proprietor of the soil. In order to facilitate such grants, the Legislature has afforded special facilities by the Act of the 17th and 18th Victoriae, chapter 112, entitled "The Literary and Scientific Institutions Act, 1854." By the first section of this Act, Grant of land. of "Any person in England, Wales, and Ireland, being seised in fee simple, fee tail, or for life, of and in any manor or lands of freehold, copyhold, or customary tenure, and having the present beneficial interest therein, may grant, convey, or enfranchise, by way of gift, sale, or exchange, in fee simple, or for a term of years, any quantity not exceeding one acre of such land, whether built upon or not, as a site for any such Institution as hereinafter described."

By subsequent sections, power to convey land is given to Trustees in possession, and also to Corporations, ecclesiastical or lay, and any officers, justices of the peace, trustees, or commissioners, holding land for public, ecclesiastical, parochial, charitable, or other purposes or objects.

By the 13th section of the Act, the following is given as a form of grant or conveyance:—

Form of Conveyance. "I, or we, [*or the Corporate title of a corporation*] under the authority of an Act passed in the eighteenth year of the Reign of Her Majesty Queen Victoria, intituled "An Act to afford greater Facilities for the Establishment of Institutions for the promotion of Literature and Science and the Fine Arts, and to provide for their better Regulation," do hereby freely and voluntarily, and without any valuable consideration [*or do in consideration of the sum of* to me, or us, or the said paid], grant and convey [*add, if necessary, enfranchise*] to all [*description of the premises*] and all [*my, or our, or the right, title, and interest of the*] to and in the same and every part thereof, to hold unto and to the use of the corporation and their successors, or of and his or their [*heirs or executors or*]

administrators or successors], for the purposes of the said Act, and to be applied as a site for such and for no other purpose whatever ; to be under the management and control of [*set forth the mode in which and the persons by whom the Institution is to be managed and directed ; in cases where the land is purchased, exchanged, or demised, usual covenants or obligations for title may be added.*] In witness whereof the conveying and other parties have hereunto set their hands and seals, [*or seals only, as the case may be*] this day of . Signed, sealed, and delivered by the said in the presence of of ."

And no bargain and sale or delivery of seisin shall be requisite in any conveyance intended to take effect under the provisions of this Act, nor more than one witness to the execution by the conveying party.

The Act above referred to, together with the Act of 6th and 7th Victoriae, chapter 36, which exempts such Institutions from liability to rates, with notes and index, and an introduction containing a commentary upon both Acts, and all the decisions of the Courts of Law, in the construction of the Exempting Act, by W. G. Lumley, Esq., has been published by Messrs. Knight and Co., Fleet Street, London, price 2s. 6d.

Wherever the want exists, and the necessity is felt of a building for the purposes of the Institute, the Committee should take into careful consideration the kind and extent of accommodation that will be required, and also the amount of funds which they will probably be able to obtain. In making the latter estimate they must not look too closely at keeping within the margin, but feel satisfied that they may commence the work when they have raised at least three-fourths of the calculated cost. The ceremony which ordinarily accompanies the opening of a new building, may help to augment the fund ; a Bazaar or an exhibition of Fine Arts and Manufactures may prove a valuable assistance, but, above all, there should be an active canvass of every inhabitant of the locality, in order that all may have an opportunity of sharing in the good work. For this purpose one or more Sub-committees should be appointed, and no means left untried to raise the required sum.

As very much depends on the energy and perseverance with which the canvass is conducted, and the various other means of raising funds are carried out, it will often prove advantageous, when a suitable individual can be found, to secure his services by a proper remuneration to take the general management of the Building Fund, as the Agent or Secretary to the Committee appointed for the purpose. His exertions need not interfere with those of the members of the Committee, but would most materially promote them and enhance their success.

Having decided upon the erection of a building and the extent of expenditure to be incurred, the next step will be the choice of a site and the selection of a design the best adapted as far as possible to the requirements of the Institute. In fixing upon a style of exterior, convenience should not be sacrificed to architectural beauty, but with

fair proportions of outline and some regard to effect, that style should be chosen which will involve the least outlay. To be inexpensive the walls need not be plain, but by a judicious arrangement of material, whether in brick or rough-faced blocks of stone, a picturesque effect may be produced far more in keeping with the streets of a small town or village than by the more costly but less effective stone carving required in pretentious imitations of Grecian or Italian buildings.

Reading-room. After the more important feature of Class-rooms especial attention should be paid to the Reading-room. It should be spacious, lofty, well lighted by day and night, well ventilated, and also well warmed in the winter season, so as to render it in every respect as comfortable and convenient as the means of the Institution will allow. For seats, chairs are in general preferable to benches, but the latter may be placed round the walls, and where many newspapers are read it would be advisable to have a separate room for them in the evenings, so as not to interfere with the quiet study of books and magazines. For heating, an open fire-place is desirable from its presenting a more cheerful appearance than either hot air or water pipes, and also from its causing a more complete ventilation. It is also desirable wherever practicable to have the Reading-room on the ground floor of the building, so as to be easy of access, and with double doors to prevent noise and the rush of cold air from the outside.

Library. The Library should, if possible, be in a separate room, with a communication from the Reading-room, and if it can be lighted from the top the whole surface of the walls may be rendered available for book-shelves.

Lecture-hall. The Lecture-hall may be most advantageously lighted by rings of gas jets in the ceiling, termed sun-lights. With chimneys above them, the vapour from the gas is carried away, by which the ventilation of the room is accomplished, and the light being equally diffused there is no distressing effect on the eye from its brilliancy. The means of ingress and egress should be as ample as possible, with a separate access to the platform, and it would also be desirable to have a chimney shaft at the back by which the fumes from chemical experiments may be carried off.

Committee Room. The Committee-room should be fitted with shelves and closets, so that papers, documents, and account books may be kept in order, and available for reference. But in small Institutions the Library may be used for the meetings of the Committee. It may, however, be remarked that it is very desirable that the business be transacted in the same room, and also at regular periods and at a fixed hour.

Draining, Ventilation, &c. In the construction of the building, attention should be paid to the requisite facilities for drainage, ventilation, an ample supply of water, and the laying of pipes for gas, &c., as well as making provision for water-closets, lavatories, &c.

Entrances. In the arrangement of the Class-rooms there should be entrances not only distinct from the approaches to the Reading-room and Lecture-hall, but also separate for male and female pupils. The walls of all

the rooms should be finished in plain stucco of as hard material as possible, so as not to be rendered unsightly by the touch.

The fittings may be mostly of deal varnished, except chairs and ^{Fittings.} tables, which should be plain and strong. In the Class-rooms should be racks for drawing boards, slates, &c., closets for class books and apparatus, and black boards for lessons. In the Lecture-hall there should be a large black board for diagrams, and framework on which to suspend illustrations, and in front of the platform should be a large table. Amongst other requirements are pegs for hats and coats both in the Class-rooms and Reading-room, and stands for umbrellas.

The desks and forms in the Class-rooms should be movable, so that they may serve for tables and seats in the Lecture-hall for a tea-festival, and for which additional facilities should be given by the erection of ovens, boilers, &c., in the lower part of the building.

It would also be desirable to have one of the Class-rooms fitted with furnace, flue, &c., so that it might be used by a Class for the study of chemistry and the performance of experiments.

LAWS RELATING TO MANAGEMENT OF INSTITUTIONS.

By the Act of 17th and 18th Victoria, chapter 112, passed in August, 1854, and entitled "An Act to afford greater facilities for the Establishment of Institutions for the Promotion of Literature and Science and the Fine Arts, and to provide for their better Regulation," provision is made for vesting the personal property of the Institution in the governing body, which has thereby the advantage of a Corporation. By Section 20 it is provided that

Where any Institution shall be incorporated, and have no provision applicable to the personal property of such Institution, and in all cases where the Institution shall not be incorporated, the money, securities for money, goods, chattels, and personal effects belonging to the said Institution, and not vested in trustees, shall be deemed to be vested for the time being in the governing body of such Institution, and in all proceedings, civil and criminal, may be described as the moneys, securities, goods, chattels, and effects of the governing body of such Institution by their proper title.

By Section 21 it is enacted that the Institution may sue or be sued in the name of the president, chairman, principal secretary, or clerk, as shall be determined by the rules, but if no officer has been named, the governing body may appoint one for the occasion, and a claimant may sue the president or chairman.

By Sections 22 and 23 suits may be continued, notwithstanding a change of officers, and judgments may be enforced against the property of the Institution.

By Section 24 penalties for breach of any bye-law confirmed by a majority of three-fifths of the members present at a special meeting, may be recovered in any local court; and any member in arrear of subscription, or who shall detain any property of the Institution, or injure or destroy it, may be sued in like manner. By Section 26 members are liable to prosecutions in respect of criminal offences committed by them against the property of the Institution, in the same manner as strangers.

Subsequent Sections of the Act make provision for alterations in the constitution of the Institution, and for a dissolution which can only be done with the consent of three-fifths of the members, but no property shall be distributed amongst the members. It shall be given to some other Institution, to be determined by the members at the time of the dissolution, or in default thereof by the Judge of the County Court.

It will thus be seen that ample provision has been made by the legislature for protecting the property of an Institute, and preserving that which has been contributed voluntarily for the promotion of Literature, Science, and the Fine Arts to its legitimate uses. This should of itself be an additional inducement to many to lend their aid to the raising of such an indispensable adjunct as a commodious building adapted to the purposes of the Institute, because they may feel secure that their contributions cannot, without an infringement of the law, be devoted to other purposes.

A FORM OF RULES

SUGGESTED FOR THE MANAGEMENT OF

MECHANICS' INSTITUTES.

I. This Institution shall be entitled the Mechanics' Institute, the objects of which shall be the instruction and improvement of its members, by

1st.—CLASSES for elementary instruction, and for the cultivation of definite branches of study.

2nd.—A LIBRARY for circulation.

3rd.—A READING-ROOM supplied with periodical publications, books for reference, maps, engravings, &c.

4th.—LECTURES or Papers on interesting moral, literary, or scientific subjects.

II. That anything calculated to encourage irreligion or immorality shall be rigidly excluded from all discussions and proceedings, and all questions connected with controversial theology, party politics, or subjects likely to excite angry feelings, shall be strictly prohibited.

III. The Institute shall be under the management of a President, Vice-presidents, a Treasurer, an Honorary Secretary, and members of Committee, to be elected at a General Meeting of the members.

IV. Each member of the Committee must have attained the age of twenty-one years, and have been a subscriber at least six months previously. He must be nominated in writing to the Secretary ten days previously to the election by a subscriber of similar standing, and the names of members so nominated shall be exhibited in the Reading-room for one week previous to the election. In the event of the number of persons nominated being greater than the vacancies to be filled, the election shall take place by ballot. Each member present at the meeting shall deliver a list of the candidates he votes for, not exceeding the number to be elected, to two scrutineers who shall be chosen at the commencement of the proceedings, and whose report to the Chairman shall be final. If the votes for two or more candidates are equal, the chairman shall have a casting vote.

V. A list of the members and subscribers eligible to serve on the Committee shall be exhibited in the Reading-room one month before any election of officers.

VI. The Institute shall consist of Honorary members paying One Guinea or upwards yearly, or being donors of Five Guineas or upwards; of Ordinary members paying 2s. 6d. a quarter or 10s. a year and

upwards; and of weekly members above 14 years of age paying—Males 3d., and Females 2d. a week: but no member paying less than 2s. 6d. a quarter or being under 18 years of age shall have the privilege of voting at a General Meeting. Subscribers of One Guinea or upwards yearly shall have the privilege of nominating a pupil of any of the classes, who shall be admitted on payment of only one penny a week.

VII. The property of the Institute shall be vested in . . . Trustees, appointed by the Committee, and approved of at a General Meeting of the members; the Trustees to hold such property for the sole benefit of the Institute, so long as it shall continue in existence; and in the event of its dissolution by the vote of a General Meeting, or the want of sufficient subscriptions for the space of one year, the Trustees shall have the power, after the payment of debts, to transfer it to any Institute of similar character that may be formed in this town, and the members of which shall agree to accept it upon the same conditions. And no dividend, gift, division, or bonus in money, or books, &c., shall be made unto or between any of the members or subscribers of the Institution. In the event of the death, or the removal from the neighbourhood of any of the Trustees, the Committee shall have power to fill the vacancies, subject to the approval of a General Meeting.

VIII. Every person on becoming a member of the Institute shall pay sixpence as an admission fee, and shall receive a ticket entitling him or her to all the advantages of the Institute, and no member shall be entitled to admission to the Lectures, Reading-room, Library, Classes, or Meetings, unless he produce his ticket if required.

IX. Any weekly member may, on leaving his ticket at the Institute, discontinue his subscription, and renew it at a future time on the payment of sixpence as a re-admission fee; but any member retaining his ticket must pay all arrears of subscriptions before he can be entitled to the advantages of the Institute.

X. Any member intending to withdraw from the Institute shall give notice to the Secretary before the expiration of the term for which he has subscribed, and if he fail to do so, he shall be considered a member for the ensuing quarter, and shall be liable for the payment of his subscription.

XI. Should any member lose his ticket, he may obtain another on payment of one penny. The tickets are not transferable, and any member lending his ticket to another person for the purpose of introducing him to any portion of the Institute, shall pay a fine of two shillings and sixpence, and for the second offence be expelled.

XII. The Committee shall meet at least once a month for the transaction of general business, but shall have no power to act unless three members be present. They may, however, appoint Sub-Committees for the management of the several departments of the Institute.

XIII. The Committee shall have power to appoint a Librarian who shall have the charge of the books in the Library and the care of the Reading-room. He may also receive subscriptions and fees for admission to Lectures, &c., under the supervision of the Secretary.

XIV. The Committee shall also have power to appoint a person to collect subscriptions and canvass for new members, and to fix the amount of remuneration for his services, and also to appoint such other officers and servants as they may deem necessary for the purposes of the Institution.

XV. All subscriptions and other payments to the Institute shall be made to the Secretary, the Librarian, or the Collector, and having been entered in a book kept for the purpose, shall be paid by the Secretary to the Treasurer, who shall keep a Cash book, containing an account of all receipts and payments, which shall be laid before the Committee at each monthly meeting. No payment above the amount of £2 shall be made without an order from the Committee.

XVI. A General Meeting of the members shall be held on the first . . . day in February in each year, when the Secretary shall read a report containing a statement of the progress of the Institute during the preceding year, the amounts of receipts and payments, the number of members, the number and subjects of lectures delivered, the condition of the classes, the state of the library, and other matters; the officers of the Institute shall be elected, and other business transacted; but no alteration of the Rules shall be made unless notice of the proposed alteration be sent to each member one month at least before the meeting be held.

XVII. All voting at a General Meeting shall be in the first instance by a show of hands, and if it appear doubtful to the chairman, or any three members, upon which side is the majority, he or they may demand a division; the chairman shall appoint tellers and their decision shall be final; but a ballot may be demanded by five members at any stage of the proceedings before a division. In the event of an equal number of votes on each side, the question shall be decided by the casting vote of the chairman.

XVIII. At each Annual Meeting shall be elected two auditors of the accounts, in the same manner and from such members as are eligible to serve on the Committee.

XIX. The accounts of the Institution shall be made up once in every year, and, together with all books of accounts, orders, bills, receipts, vouchers, and other documents relating thereto, shall be laid before the auditors one week before the Annual Meeting.

XX. The Library shall be open for the issue and exchange of books every . . . day and . . . day, from . . . to . . . o'clock. Any member not returning a book, or defacing or injuring it, shall be liable to make good the damage to the satisfaction of the Committee.

XXI. The Committee shall have power to make rules for the issue and renewal of books, and to levy fines for the breach of such rules; and no member shall be entitled to any book until he shall have paid all fines which he may have incurred.

XXII. No person shall have more than one book at a time, except that when a work consists of more than one volume he may take out the set on condition of returning the whole within the period allotted for keeping the first volume.

XXIII. Members may enter their names for any book, and shall be entitled to it in succession as their names are entered, but no person's name can be entered for more than one book at one time.

XXIV. All books on being received shall be marked with the stamp of the Institute, and shall lie on the table of the Reading-room one month before they are allowed to circulate.

XXV. The Reading-room shall be open every day from . . . to . . . o'clock. All members of the Institute shall have free admission, and strangers, not resident in the town, may be admitted on the payment of one penny for each visit, but no part of the Institute shall be open on Sunday, Good Friday, or Christmas Day.

XXVI. A book shall be kept in the Reading-room, in which members may enter the title, price, &c., of any book, periodical, &c., which they may desire to be purchased for the Institute, and may make any suggestions for the improvement of the Institute; but every entry shall be signed by the member making it.

XXVII. The Committee shall have power to expel any member or class-pupil for misconduct, subject to an appeal to the next General Meeting.

XXVIII. All donations to the Institute shall be devoted to the increase of the Library, or some other special purpose, such as the erection of a building for the purposes of the Institute.

XXIX. Every member of the Institute desirous of entering any of the classes, shall pay, in addition to his subscription, such sum per quarter or per week, if required, as may be ordered by the Committee. Should any of the members desire to form a class, they shall enter their names in a list to be exhibited in the Reading-room for the entry of additional names, and the Committee may make regulations for establishing and conducting the proceedings of such class. Each class shall keep minutes, and make a report of its proceedings to the Committee at each monthly meeting. Persons not members of the Institution may be admitted to attend any class or classes on such terms as the Committee may determine.

XXX. A Special General Meeting of the members shall be summoned by the Secretary on the written requisition of the President, of three Members of the Committee, or of ten Members of the Institute, stating the object of the meeting, and notice shall be given at least seven days before the time appointed, by posting the same in the rooms of the Institute. No business shall be entered upon at any Special Meeting but that for which it has been summoned.

XXXI. The Committee shall have power to make a charge on members and others for admission to Lectures, &c., where any additional expense has been incurred.

XXXII. The Committee shall have power to make such bye-laws and regulations as may be needed, which shall be binding until the next Annual Meeting, and should any case occur which is not provided for by any of the rules, it shall be determined by the Committee. A copy of the bye-laws must be exhibited in the Reading-room, Library, Class-rooms, &c.

XXXIII. The Institute shall not be dissolved without the consent of at least nine-tenths of the members of six months' standing present at two General Meetings to be called expressly for the purpose, with an interval of not less than three months, and of which special notice shall be sent to each member at least three months before each meeting, and notices exhibited in every room belonging to the Institute, as well as outside the building.

LIBRARY BOOKKEEPING.

Every work admitted to the Library should immediately be entered in a Stock Book to consist of a numerical list, the number to be the same as that given in the Catalogue. It will be convenient to record at least the following particulars:—

A quarto book will suffice for this purpose, and it will be found advantageous to have both the horizontal and vertical lines ruled at the stationer's.

In placing books on the shelves it will seldom be practicable in small libraries, to keep the subjects locally classified without much waste of space, as the variety of sizes in which works are published would render it necessary to appropriate a set of shelves to each department of literature, adapted to all sizes from 18mo. to folio. But if it be thought desirable to adopt local classification, the numbering must be modified accordingly.

Whatever plan is adopted should be of a kind to admit of an indefinite extension of the Library without producing confusion in the books. It may be taken as a general rule, that in small libraries confined to one room, it is not expedient to maintain a local classification of subjects, although it may be practicable, and, perhaps, advantageous, in placing the nucleus or first collection of books on the shelves, to group them by their subjects. Subsequently, the size of a book determines its place, and it will be found convenient to keep shelves available for each size, as 18mo., 12mo., and foolscap 8vo., demy 8vo., royal 8vo., 4to., and folio, the two last occupying the lowest shelves. With the exercise of a little care and foresight this will be easily carried out.

The most useful register of the circulation of books consists of a numerical list with a certain space for the issues, thus:—

G. 14 Days.		JOHNSON'S WORKS. 4 VOLS.				654. 5. 6. 7.	
Member's No.	Member's Name.	Date of Issue.	Date of Return.	Member's No.	Member's Name.	Date of Issue.	Date of Return.
239.	B. Blake, vols. 1, 2.	13/6/63	24/6/63				

In the head line the letter to the left hand represents the sign of the class the work belongs to, say G. general literature, and is useful in making tables of circulation, "14 days" is the time allowed for reading it. The right hand corner contains the No. of the book in the catalogue.

The advantage of this form of book over one in which the work is entered to the member's name, is, that in the former case the person in possession of a book may be discovered at once, in the latter all the entries may have to be examined to attain the same result. In some large libraries double entry is adopted, the second book consisting of an alphabetical list of the readers; it is useful to verify the number and name in the Register, and checks the irregularity of members obtaining more works than the rules permit. The only entry it requires is the number of the book, and this may be cancelled by a cross when the work is returned.

As fines are incurred it will be convenient to record them in a Fine Book, entering the member's name, the amount of the fine, and the date when incurred.

In cataloguing books, the title of the work should uniformly precede the author's name, the number of volumes follow, and then the date.

No.			Vols.	Date.
344	Wealth of Nations.	Smith, Adam.	2	1824

In some instances the press mark or place of the book is also inserted—344 A 5 Wealth, &c., but this is generally superfluous, unless the shelves are accessible to all the members, a practice of great inconvenience. The librarian soon becomes familiar with the localities of the works most in request, and when at a loss, his library register gives him the information. If this is printed no alteration in the places of the books can be made, however desirable, without creating perpetual confusion between the printed and actual places. It is, however, very convenient to insert in each book its number and press mark. Also a brief summary of the library Bye Laws, which can be printed on neat tickets pasted in the cover. Books should also be stamped with the name of the Institution.

A very excellent plan has been adopted at Darlington Mechanics' Institution. A thin board, about 15 inches high, is placed upright before the Librarian. Upon it are the numbers of all the books arranged in vertical columns. One to 100,—101 to 200, and so on, so that the tens and units of each hundred are in a horizontal line, and, therefore, easily found by the eye. In every number is a small hole, and on each book being taken from the library, a small brass-headed nail is placed in the hole of that number. On each book being returned, the nail is taken from the hole, and placed in a tray at the bottom to be used again. The advantage of this plan is that the state of the circulation may be seen almost at a glance, and any member requiring a book may ascertain, by looking at the board, whether it is in circulation. Books needing repair have a nail placed in the hole with a small collar of blue paper, and those for reference only have a collar of red paper.

Those books only, the numbers of which have the holes empty, are free for circulation.

BESPOKE BOOK.—In libraries where many books are much in request, and members are anxious to secure the opportunity of perusing them, it is convenient to have a bespoke book, so that each member who has entered his request may be supplied in turn. It is also advisable to have a book in the Reading-room always accessible to the members, in which entries should be made of any book which a member wishes to be procured, stating the title, price, and name of the publisher. Any suggestions for the improvement of the Institute, or complaints, might also be made in this book, which should be submitted to the Committee at every meeting. Every entry should be signed by the member making it, and also by such other members as are favourable to its adoption.

INTRODUCTION TO THE PRICED CATALOGUE.

THE following Catalogue has been compiled to assist the Committees of Institutions in the selection of works for the Library, and being classified, it will facilitate the equitable distribution of the funds among the several departments of literature and science; and it may be suggested that in the formation of a Library, on however small a scale, it is eminently desirable that all the great sources of knowledge should be represented. A glance at the following pages will show that the numerous cheap reprints of standard works, and the variety of recent productions offered at moderate prices, render this quite practicable.

A few suggestions are subjoined relative to the selection and mode of purchasing books:—

SELECTION OF BOOKS.

1st. *In forming the nucleus of a Library*, a pretty full list should be prepared, and, having always in view the funds at disposal, a selection should be made of sterling works referring to each head. This secured, if possible with some surplus, the latter should be applied to procure a good supply of works likely to interest the general reader, and to meet the popular demand; these may generally be referred to Biography, Voyages and Travels, Poetry, and works of Imagination, the last to be chosen with great circumspection.

2nd. *Additions to a Library*.—In making additions it is always well to look over the catalogue and note if there is any special deficiency, as this should be first supplied. The next aim should be to secure fulness, comprehensiveness, and depth, in the works in each department, taking those giving the most recent information or of the highest authority. The specialities of a locality should also be taken into account, and works of utility or interest relating to these should be procured. The taste of the readers, as evidenced by the class of works most read, should always be considerably catered for, care being taken that if those of lighter character are in undue request, more works presenting information or material for thought in a captivating form be selected. Pictorial illustrations, besides their intrinsic value, always enhance the attractiveness of a book. A book lying in the reading-room, in which members may recommend works for purchase, with the approval of the Committee, is advantageous.

3rd. *General considerations in connection with the selection of books:*

I. The character of the author, and reputation of the book.

II. *Its date*, which, with many works, entirely settles their value. This applies particularly to Chemistry and the cognate sciences, Electricity, Electro-Magnetism, &c.; the Steam Engine, Botany, Physiology, Philology, &c.: not in the like degree to mathematics, history, religion, morals, &c. But it is a fact in connection with a book not to be lost sight of.

III. *The cost*.—This should not be too closely considered in the formation or increase of a library in the instance of works giving the fullest information on the best authority. But as it will be necessary to supply many readers with the same class of works, it is absolutely necessary to purchase freely of the least costly, and those of more elementary character, which can now be procured in every branch of knowledge, and are, indeed, often better adapted to the wants of the majority of readers than higher class works.

IV. Popular Biography, Travels, History, Criticism, Fiction, &c., published at high prices, may commonly be procured in good condition, at a reduction of from 30 to 50 per cent., within a short time after their publication. This, however, is not the case with scientific works; and, generally, those of the class referred to in II, seldom fall in price materially until they have become obsolete.

V. In ordering books the price of the edition required should always be stated, and a duplicate of the order be preserved.

VI. Any bookseller will give a discount from the published prices for cash; but in purchasing a number of works, by allowing a little time to procure them, a much larger discount may be expected.

VII. The Society of Arts undertake the purchase of books on very favourable terms for the Institutions associated with it.

Catalogues may be obtained gratis of most of the publishers, as well as of several dealers in new and second-hand books, of which the following is a list:—

LONDON.

Bohn, H. G., York Street, Covent Garden.
 Bull, Hunton, and Co., Holles Street, Cavendish Square.
 Dawson and Sons, Cannon Street, E.C.
 Hookham and Sons, Old Bond Street.
 Lumley, Edward, 514, New Oxford Street.
 Mudie, C. E., New Oxford Street.
 Reeves and Turner, 238, Strand.
 Weldon, John, Paternoster Row.
 Willis and Co., 136, Strand.

COUNTRY.

Ashworth, B., Albion Street, Leeds.
 Brough, W., Paradise Street, Birmingham.
 Brough, W., Angel Street, Sheffield.
 Cadby, J. W., Birmingham.

Clifford, W., High Street, Exeter.
 Dearden, W., Nottingham.
 Fenteman and Sons, Boar Lane, Leeds.
 Hamer, J., 7, Briggate, Leeds.
 Hayes, Thomas, Palatine Buildings, Manchester.
 Holditch, C. W., Market Place, Hull.
 Howell, Edw., Church Street, Liverpool.
 Jeffreys, C. T., Radcliffe Street, Bristol.
 Kerslake, Thos., Bristol.
 Palmer, W., Leece Street, Liverpool.
 Rutland, —, Market Place, Newcastle-on-Tyne.
 Sampson, John, Coney Street, York.
 Stark, J. M., Whitefriargate, Hull.
 Thompson and Co., Market Street, Manchester.
 Walker, H. W., Briggate, Leeds.

The Department of Science and Art, South Kensington, will supply to any public school a set of examples for teaching Drawing at a very reduced charge. The Lists also state where all Drawing Implements can be obtained.

The works published by the National School Society, British and Foreign School Society, and Irish Society, may also be procured on very reasonable terms.

In the following Catalogue the several publishers are distinguished by the letter after the price, according to the alphabetical list subjoined.

LIST OF PUBLISHERS.

- A** A. and C. Black, Edinburgh.
- B** Wm. Blackwood and Sons, Edinburgh and London.
- C** H. G. Bohn, York Street, Covent Garden, London.
- D** Cassell, Petter, and Galpin, Ludgate Street, London.
- E** W. and R. Chambers, Edinburgh and London.
- F** Chapman and Hall, Piccadilly, London.
- G** Griffith and Farran, St. Paul's Church Yard, London.
- H** Groombridge and Sons, Paternoster Row, London.
- I** Arthur Hall, Virtue, and Co., do. do.
- K** Hatchard and Sons, Piccadilly, London.
- L** Houlston and Wright, Paternoster Row, London.
- M** Hurst and Blackett, Great Marlborough Street, London.
- N** W. Kent and Co., Paternoster Row, London.
- O** Longman, Green, and Co., Ludgate Hill, London.
- P** Lovell, Reeve, and Co., Henrietta Street, Covent Garden, London.
- Q** Macmillan and Co., Cambridge and London.
- R** John Murray, Albemarle Street, London.
- S** Religious Tract Society, Paternoster Row, London.
- T** Rivingtons, Waterloo Place, Pall Mall, London.
- U** Routledge and Co., Farringdon Street, London.
- V** Saunders, Otley, and Co., Conduit Street, London.
- W** Smith, Elder, and Co., Cornhill, London.
- X** Society for Promoting Christian Knowledge, London.
- Y** Ward and Lock, Paternoster Row, London.

PRICED CATALOGUE.

ARTS AND MANUFACTURES.

- Animal and Vegetable Substances used in Arts and Manufactures, 2s. H
 Art of Cleaning, Dyeing, &c., by Love, 7s. 6d. O
 Book of Trades, 2s. X
 Caoutchouc and Gutta Percha, 1s. 6d. X
 Chevreul on Colour, 5s. C 5s. U
 Cotton Manufacture of Great Britain, 2 vols., 5s. each. C
 Denison's Clocks and Locks, 3s. 6d. A
 Dictionary of Calico Printing and Dyeing, 6s. N
 Dictionary of Trade and Trade Products, 7s. 6d. U
 Donovan's Domestic Economy, 2 vols., 7s. O
 Dwellings for the Working Classes, 3s. B
 Great Facts—Popular History of Inventions, 3s. 6d. L
 Handbook of the Mechanical Arts, 6s. 6d. B
 Handbook of Turning, 7s. 6d. V
 History of Printing, 2s. 6d. X
 Holland's Manufactures in Metal, 3 vols., 10s. 6d. O
 Illustrations of Trades, 4s. X
 Illustrations of Useful Arts and Manufactures, 4s. X
 Introduction to the Arts and Sciences, 3s. 6d. C
 Iron, its History, Manufacture, &c., by William Fairbairn, 6s. A
 Lowndes' Engineer's Handbook, 5s. O
 Mineral Substances used in Manufactures, 2s. H
 Novelties, Inventions, and Curiosities, 2s. U
 Political Economy of Art, by J. Ruskin, 2s. 6d. W
 Porter's Manufactures of Porcelain and Glass, 3s. 6d. O
 Ship-building and Steam-ships, by R. Murray, 14s. A
 Porter's Manufacture of Silk, 3s. 6d. O
 Soyer's Modern Housewife, 7s. 6d. Simpkin
 Substances used as Food, 1s. 6d. X
 The Steam Engine, by R. Scott Burn, 2s. Y
 The Steam Engine—its Construction, Action, and History, 4s. 6d. H
 The Steam Engine, by Scott Russell, 5s. A
 Ure's Philosophy of Manufactures, 7s. 6d. C
 Useful Arts and Manufactures—Textile Fabrics, 5s. X
 Useful Arts and Manufactures—Metals, Chemical Manufactures, 5s. X
 Useful Metals and their Alloys, 7s. 6d. L

BIOGRAPHY.

- Annals of the Poor, 2s. 6d. S
 Annals of Eminent Living Men, 2s. 6d. L
 Autobiography of Charles V., 6s. 6d. O
 Biography and Criticism, 2s. U
 Biography Exemplary and Instructive, 2s. E
 Boswell's Life of Johnson, 4 vols., 10s. U
 Boswell's Tour to the Hebrides, 3s. 6d. U
 Celebrated Children of all Ages, 3s. 6d. U

- Curran and his Contemporaries, 7s. 6d. B
 Cyclopædia of Female Biography, 5s. H
 Eminent Men and Popular Books, 2s. U
 Extraordinary Men, 2s. 6d. U
 Extraordinary Women, 2s. 6d. U
 Heroes of the Laboratory and Workshop, 2s. 6d. U
 Historical and Literary Celebrities, 3s. 6d. E
 Homes and Haunts of the British Poets, 8s. 6d. U
 Howard the Philanthropist, 2s. 6d. X
 Life of Alfred the Great, 10d. S
 Life of Dr. Arnold 3s. 6d. L
 Life of Edward Baines, 2s. 6d. O
 Life of Admiral Blake, 2s. 6d. F
 Life of Lord George Bentinck, 2s. U
 Life of Julius Caesar, 10d. S 5s. U
 Life of Robert Lord Clive, 5s. R
 Life and Voyages of Columbus, 2s. 6d. U
 Life of Crompton, 1s. 5s. Sims.
 Life of the Earl of Dundonald, 2s. 6d. U
 Life of Lord Exmouth, 2s. 6d. U
 Life of Benjamin Franklin, 1s. 4d. E
 Life of Dr. Johnson, by Boswell, 8 vols., 16s. C 2 vols. 10s. U
 Life of the Duke of Marlborough, 2s. 6d. U 1s. 8d. X
 Life of Napoleon Buonaparte, 3s. 6d. U
 Life of Lord Nelson, 2s. 6d. U 2s. 6d. X
 Life of William Penn, 7s. F
 Life of Richard Cœur de Lion, 2 vols., 7s. C
 Life of Richelieu, 5s. U
 Life of George Stephenson, by Smiles, 6s. R
 Life of Washington, by Irving, 5 vols., 12s. 6d., 2 vols., 2s. C
 Life of Wellington, 5s. C 2s. 6d. U
 Life of Dr. Wolff, 12s. V
 Lives of British Military Commanders, 3 vols., 10s. 6d. O
 Lives of British Poets, 2 vols., 7s. O
 Lives of British Statesmen, 7 vols., 24s. 6d. O
 Lives of Celebrated Admirals, 5s. K
 Lives of Early Writers of Great Britain, 3s. 6d. O
 Lives of Foreign Statesmen, 5 vols., 17s. 6d. O
 Memoirs of Duke of Marlborough, 3 vols., 10s. 6d. C
 Men of the Time, 10s. 6d. U
 Military Life of Wellington, 2s. X
 Oliver Goldsmith, a Biography, 7s. 6d. F
 Our Exemplars, Poor and Rich, 5s. D
 Reminiscences of Scottish Life, 7s. 6d. Edmonston.
 Schooldays of Eminent Men, 5s. Lockwood.
 Self Help, by Smiles, 6s. R
 Short Memoirs of Eminent Men, 1s. 6d. X
 Southey's Lives of British Admirals, 5 vols., 17s. 6d. O
 Stories of Inventors and Discoveries, 5s. Lockwood.
 Tales of the Great and Brave, 4s. 6d. K
 Walton's Lives, entire, 4s. X
 Will Adams, the First Englishman in Japan, 10s. 6d. L

BOTANY, AGRICULTURE, &c.

- Agricultural Chemistry, 2s. U
 Agricultural Instructor, 1s. Piper.
 Agricultural Tour in Belgium and Holland, 7s. O
 Agriculture and Dairy Husbandry, 2s. 3d. E
 Amateur Gardener's Year Book, 3s. 6d. A
 Book of Garden Management, 7s. 6d. N
 Botanical Rambles, by Rev. C. A. Johns, 2s. X
 Botanist's Companion, 2s. 6d. A
 Carpenter's Vegetable Physiology, 6s. C
 Chemistry of the World, 6s.
 Cows and Dairy Husbandry, 1s. Piper.
 Curiosities of the Vegetable Kingdom, 2s. X
 Dictionary of Botanical Terms, 4s. H
 Economic Botany, 7s. 6d. U
 Elements of Agricultural Chemistry, 6s. 6d. B
 Farm and Garden Essays, 3s. H
 Flower Garden, by George Glenny, 1s. Piper.
 Flowers of the Field, 7s. X
 Garden Botany, 7s. 6d. U
 Garden Manual, 1s. 6d.
 Garden that Paid the Rent, 2s. F
 Gardener's Annual, 2s. 6d. O
 Gardener's Year Book, 1s.
 Gardening for Children, 2s. X
 Geography of Plants, 7s. 6d. U
 Handbook of Farm Labour, 1s. 6d. O
 Henslow's Botany, 3s. 6d. O
 Implements of the Farm, 1s. Piper.
 In-door Gardening, 1s. 6d.
 Life of a Tree, 2s. 6d. X
 Monthly Gleanings from the Field and Garden, 3s. 6d. X
 Morton's Agricultural Hand-books, 1s. 6d. O
 Out-door Gardening, 1s. 6d.
 Outlines of Botany, 8s. 6d. A
 Parlour Gardener, 2s. 6d. Low.
 Popular Manual of Botany, 3s. 6d. A
 Potato, its History and Culture, 1s. Piper.
 Rural Affairs, 2s. X
 Rural Architecture, 1s. Piper.
 Science and Practice of Gardening, 3s.
 Scientific Farming made easy, 2s. 6d. U
 Talpa, or Chronicles of a Clay Farm, 5s. 6d. O
 The Cottage Garden, 1s. A
 Tour Round my Garden, by A. Karr, 5s. U
 Vegetable Products of the World, 2s. 6d. U
 Wanderings through the Conservatories at Kew, 2s. X
 Wheat, its History and Cultivation, 1s. Piper.

EDUCATION.

Advanced Prose and Poetical Reader, 3s. A
 Arithmetic, Theoretic and Practical, 2s. E
 Art of Extempore Speaking, 4s. 6d. Bosworth.
 Bacon's Novum Organum, 5s. C
 Bacon's Science of Memory explained, 3s. N
 Buildings for Mechanics' Institutions, 1s. 6d. O
 Business Manners and Business Matters, 3s. 6d. N
 Cambridge University Local Examinations, 2s. each. T
 Civil Service Examinations, Guide to, 1s. D
 Class-Book of English Prose, 4s. 6d. A
 Composition and Elocution, 1s. L
 Dictionary of Obsolete and Provincial English, 2 vols., 10s. C
 Elements of Arithmetic, 1s. 6d. D
 Elements of Political Economy, 2s. D
 Elocution and Oratory, 1s. D
 English Language in its Elements and Forms, 3s. 6d. D
 English Language and Literature, 2s. E
 Examiner's Assistant, 1s. 6d. G
 Grammar of the English Language, by Thos. Marsh. Simpkin.
 Handbook of the English Tongue, 5s. S
 Handbook of Mechanics' Institutes, 2s. O
 Hints on Elocution, 1s. Y
 Hints on Letter Writing, 1s. 6d. L
 Home Tutor, 3s. 6d. Y
 Introduction to Logical Science, 4s. 6d. A
 Introduction to the History of English Literature, 2s. A
 Johnson's Dictionary Abridged, 8s. T
 Labour among the Navvies, 2s. N
 Lectures on the English Language, 7s. 6d. R
 Lessons on Industrial Education, 2s. 6d. O
 Library Registers, 1s. 6d. to 6s. X
 Light, more Light, by James Hole, 2s. 6d. O. Hamer, Leeds.
 Literary and Scientific Institutions Act, 2s. 6d. Knight,
 Manual of Algebra, Part I., 2s. 6d. O
 Manual of Arithmetic, by Galbraith and Haughton, 3s. 6d. O
 Manual of Civil Law, 3s. 6d. O
 Manual of Dates, 12s. 6d. U
 Manual of Euclid, 2 parts each, 2s. 6d. O
 Manual of Plane Trigonometry, 2s. 6d. O
 Manual of Political Science, 3s. 6d. O
 Mathematical Science, its Logic and Utility, 2s. D
 Maunder's Treasury of Knowledge, 10s. O
 Mercantile Morals, a Book for Young Men, 3s. 6d. N
 Morell's Handbook of Logic, 2s. O
 Origin and History of the English Language, 16s. Low.
 Origin and Progress of Language, 10d. S
 Papers and Discussions on Education, 2s. Faithfull.
 Pick, on Memory and Means of Improving it, 2s. 6d. N
 Pleasant Pages, 6 vols., 3s. 6d. each. L

Popular Educator, 6 vols., 4s. 6d. each. D
 Practical Dictionary of English Synonyms, 2s. Y
 Practical Hints to Unpractised Lecturers, 8d. W. M. Educ. Union.
 Principles of Elocution, 2s. 6d. E
 Prize Essay on Mechanics' Institutes, by J. Hole, 5s. O
 Prizes for Common Things, by Miss A. B. Coutts, 1s. 6d. K
 Ragged Homes and How to Mend them, 3s. 6d. N
 Report of the Yorkshire Union of Mechanics' Institutes, 1s.
 Rowton's Debater, 6s. O
 Smart's Manual of Logic, 2s. 6d. O
 Smart's Manual of Rhetoric, 2s. O
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 Text-book of Zoology, 3s. 6d. X
 Waterton's Essays on Natural History, 3 vols., 16s. O
 White's Natural History of Selborne, 5s. C 3s. 6d. U
 White's Popular History of Mammalia, 10s. 6d. P
 World of Wonders revealed by the Microscope, 3s. 6d. H
 Year of Country Life, 2s. 6d. X
 Zoological Sketches, 3s. X

PHYSIOLOGY, &c.

Agassiz and Gould's Comparative Physiology, 5s. C
 Bell's Mechanism of the Hand, 6s. R
 Good Health, obtaining and keeping it, 6d. Jones.
 Guide to the Knowledge of Life, 4s. Jarrold.
 Lawrence's Lectures on Comparative Anatomy, 5s. C
 Outlines of Physiology, 6s. A
 Physiology of Common Life, 2 vols., 12s. B
 Rudiments of Animal Physiology, 1s. 6d. E
 Science of Health, 3s. 6d. X
 Structure and Functions of the Eye, 7s. 6d. H
 The House I Live in, 2s. 6d. Parker.

POETRY AND THE DRAMA.

- Akenside and Dyer's Poetical Works, 5s. U
 Aldine British Poets, 53 vols., 5s. each
 Aytoun, W. E., Lays of Scottish Cavaliers, &c., 7s. 6d. B
 Aytoun, W. E., Bothwell, 7s. 6d. B
 Barry Cornwall's Poems, 2s. 6d. F
 Bernard Barton's Poems, 2s. 6d. I
 Burns' Poetical Works with Life, 3s. 6d., 5s. U 3s. 6d. Y
 Byron's Poems, 3s. 6d. L 3s. 6d., 5s. U
 Campbell's Poetical Works, illustrated, 3s. 6d. U 3s. 6d. Y
 Chaucer's Canterbury Tales, &c., 5s. U
 Coleridge's Poems, 3s. 6d., 6s. Moxon.
 Cowper's Poetical Works, 3s. H 3s. 6d. L 3s. 6d., 5s. U 3s. 6d. Y
 Crabbe's Poetical Works, 3s. 6d. L 3s. 6d., 5s. U 3s. 6d. Y
 Cyclopædia of Poetical Quotations, 5s. H
 Dante, translated by Cary, 7s. 6d. C
 Dodd's Beauties of Shakspeare, 3s. 6d. Moxon.
 Dryden's Poetical Works, 5s. U
 Falconer's Shipwreck, 1s. 6d. H
 Goldsmith, Johnson, Smollett, and Shenstone, 3s. 6d., 5s. U
 Goldsmith's Poetical Works, 3s. 6d. Y
 Gray, Parnell, Warton, Green, and Collins, 5s. U
 Heber, Reginald, Poems
 Hemans, Mrs., Poems, 1 vol., 12s. 6d. B
 Herbert's Poems, 3s. 6d., 5s. U 2s. 6d. X
 Homer's Iliad, by Pope, 5s. C 2s. 6d. U
 Homer's Iliad, by F. W. Newman. Walton.
 Homer's Odyssey, by Pope, 5s. C 2s. 6d. U
 Hood, Thos., Poems, 7s. Moxon.
 Hood, Thomas, Poems of Wit and Humour, 5s. Moxon.
 Howitt, Mary
 Hunt, Leigh, Poetical Works, 5s. U
 Keats' Poetical Works, 3s. 6d. Moxon.
 Keble. The Christian Year. Parker.
 Kirke White's Poetical Works, with Life, 3s. 6d., 5s. U 3s. 6d. Y
 Knowles, J. S., Dramatic Works, 7s. 6d. U
 Lamb's Specimens of English Dramatic Poets, 5s. C 6s. Moxon.
 Landon, Letitia E., Poems, 2 vols., 10s. O
 Lays of Ancient Rome, 4s. 6d. O
 Longfellow's Poetical Works, 3s. 6d., 5s. C 2s., 3s. 6d., 5s. U
 Lytton, Sir E. Bulwer, Dramatic Works, 6s. U
 Macaulay, Lord, Lays of Ancient Rome, 4s. 6d. O
 Milnes, R. Monckton, M.P., Poetical Works.
 Milton's Paradise Lost, 2s. 6d. H
 Milton's Poetical Works, 2 vols., 10s. C 3s. 6d., 5s. U 3s. 6d. Y
 Moir, D. M., Poetical Works, 2 vols., 12s. B
 Montgomery, James, Poetical Works, 5s. U
 Moore's Poetical Works, with Life, 3s. 6d., 5s. U 3s. 6d. Y
 Poems by L. E. L., 2 vols., 10s. O
 Poems by David Wingate, 5s. B

- Pollok's Course of Time, 5s. B
 Pope's Poetical Works, 2 vols., 10s. C 3s. 6d. L 3s. 6d., 5s. U
 Rogers' Poetical Works, 3s. 6d. 5s. U 5s. Moxon.
 Scott, Sir Walter, Poetical Works, 3s. 6d. L 3s. 6d. Y 5s. U 5s. A
 Selections from the Poems of Robert Browning, 6s. F
 Shakspeare, 1 vol., 6s., 12s.; 4 vols., 12s.; 5 vols., 15s. U 12 vols., 18s. E
 1 vol., 7s. 6d. Y
 Sheridan, R. B., Dramatic Works and Life, 3s. 6d. C
 Southey's Joan of Arc, and minor Poems, 3s. 6d., 5s. U
 Spenser's Faerie Queene, 5s. U
 Talfourd's Dramatic Works, 6s. Moxon.
 Tennyson's Idylls of the King, 7s. Moxon.
 Tennyson's In Memoriam, 6s. Moxon.
 Tennyson's Maud, 5s. Moxon.
 Tennyson's Poems, 9s. Moxon.
 Tennyson's Princess, 5s. Moxon.
 The Gentle Shepherd, by Allan Ramsay, 2s. 6d. A
 Thomson's and Beattie's Poetical Works, 3s. 6d., 5s. U
 Wordsworth's Poetical Works, 3s. 6d. L 5s. U

ADDENDA.

- Athletic and Gymnastic Exercises, 7s. 6d. O
 Canada and the Crimea, 7s. 6d. O
 Catechism of the Steam Engine, 6s. O
 Celestial Objects for Common Telescopes, 7s. O
 Chemical, Natural, and Physical Magic, 3s. 6d. O
 Collieries and Colliers, 6s. O
 Course of English Reading, 5s. O
 Elementary Sketches of Moral Philosophy, 7s. O
 Handbook of Chemical Analysis, 7s. 6d. O
 Handbook of Dairy Husbandry, 1s. 6d. O
 Laboratory of Chemical Wonders, 5s. 6d. O
 Life of the Duke of Wellington, 15s. O
 Manual of English Literature, 10s. 6d. O
 Marcet's Conversations on Chemistry, 2 vols., 14s. O
 Marcet's Conversations on Land and Water, 5s. 6d. O
 Marcet's Conversations on Natural Philosophy, 10s. 6d. O
 Marcet's Conversations on Political Economy, 7s. 6d. O
 Maunder's Biographical Treasury, 10s. O
 On Food and its Digestion, 12s. O
 Outlines of the Necessary Laws of Thought, by the Achbp. of York, 5s. 6d. O
 Psychological Inquiries, by Sir B. Brodie, 5s. O
 Scientific and Literary Treasury, 10s. O
 Social Life and Manners in Australia, 5s. O
 Student's Handbook of Comparative Grammar, 7s. 6d. O
 Survey of Human Progress Towards Higher Civilisation, 6s. 6d. O
 The Cricket Tutor, 1s. O
 The Earth and its Mechanism, 10s. 6d. O
 The Engineer's Handbook, 6s. O

A LIST OF PERIODICALS SUITABLE FOR THE READING ROOM.

WEEKLY.		s.	d.		s.	d.
Athenæum	0	3		Illustrated London Magazine ..	1	0
British Miner	0	2		Intellectual Observer	1	0
Builder	0	4		Journal of Photog. Society	0	5
Chambers' Journal	0	1½		Literary Budget	1	0
Chemical News	0	4		London Journal of Arts, &c. ..	1	0
Colliery Guardian	0	5		Macmillan's Magazine	1	0
Critic	0	3		Musical Times	0	1½
Engineer	0	6		National Magazine	1	0
Family Herald	0	1		Oxford Magazine	0	4
Fun	0	1		Parish Magazine	0	1
Illustrated Family Paper	0	1		Philosophical Magazine	2	6
Illustrated London News	0	5		Popular Lecturer	0	2
Illustrated News of the World..	0	6		Practical Mechanic's Journal ..	1	0
Illustrated Times	0	2½		Repertory of Arts	3	0
Illustrated Weekly News	0	1		St. James's Magazine	1	0
Journal of Horticulture	0	3		Sharpe's London Magazine	1	0
Journal of the Society of Arts..	0	3		Sixpenny Magazine	0	6
Leisure Hour	0	1		Tait's Edinburgh Magazine....	0	6
Literary Gazette	0	3		Technologist	0	6
London Journal	0	1		Temple Bar	1	0
Mechanics' Magazine	0	4		Weldon's Register of Literature	0	6
Musical World	0	4		Working Man	0	1½
Notes and Queries	0	4		Zoologist	0	1
Once a Week	0	3				
Penny Illustrated Paper	0	1		QUARTERLY.		
Photographic News	0	3		British Quarterly Review	6	0
Public Opinion	0	3		Chambers' Social Science Tracts	0	2
Punch.....	0	3		Christian Remembrancer.....	6	0
Reader	0	4		Church (The) Builder	0	3
Social Science Review	0	3		Dublin Journal of Science	3	6
Sunday at Home	0	1		Dublin Review	6	0
				Edinburg Philosophical Journal	6	0
MONTHLY.				Edinburgh Review	6	0
Art-Journal	2	6		Educator	0	3
Artizan	1	0		London Review	6	0
Blackwood's Edinburgh Magazine	2	6		Meliora	1	0
Boy's Own Library	0	6		Museum	2	6
British Workman	0	1		National Review	6	0
Churchman's Family Magazine	1	0		Natural History Review	4	0
Civil Engineer & Architect's Jour.	2	0		New Quarterly Review	2	6
Cornhill Magazine	1	0		North British Review	6	0
Dublin University Magazine ..	2	6		Popular Science Review	2	6
Educational Guardian	0	3		Quarterly Journal of Agriculture	3	0
English Journal of Education..	0	6		Quarterly Jl. of the Chemical Soc.	3	0
Fraser's Magazine	2	6		Quarterly Jl. of Geological Society	4	0
Gentleman's Magazine	2	6		Quarterly Jl. of Microscop. Science	4	0
Glenny's Gardeners' Gazette ..	0	3		Quarterly Review	6	0
				Scottish Review	1	0

APPENDIX A.

INSTITUTION ACCOUNTS.

It is not easy to lay down any plan of Book-keeping applicable to every Institution ; but a few principles may, perhaps, be indicated with advantage. Practically speaking, it is most desirable to abridge the business of recording Institutional receipt and expenditure, not only as a matter of general economy of time, but because the duty has so frequently to be performed gratuitously in all but the larger Institutions. A characteristic of Institutional accounts is, that although, to use commercial language, the customers may be numerous, they all pay for one, or at most one of a few articles. This suggests the possibility of the grouping receipts into a few items, and, if possible, doing this once for all. Again, the expenditure of Institutions may, with equal readiness, be reduced to a few particulars. Another object of great importance is the ready attainment of a comprehensive view of the affairs of the Institution at any time, or at least at frequent intervals. The simplest mode of attaining these objects is that of keeping the principal book in a tabular form to embrace the chief heads of receipt and expenditure.

There will be generally little difficulty about this. If the book be ruled expressly for the purpose it is probable that an ordinary foolscap folio will suffice, and it should contain the several heads in separate columns so as to present at one view the receipts from Weekly Payments, from Quarterly and other Members, and from Miscellaneous Sources, such as fines, admission fees, donations, rent of lecture-hall, &c. The page for payments might also be divided into separate columns, distinguished as Reading-room, Classes, Library, and General Expenses. The left hand page would be in the following form :—

Dr.

RECEIPTS.

Date.		Weekly Pay-ments.	Quarterly Pay-ments.	Mis-cella-neous.	Total.
1863.					
Jan.	8	Weekly Members	2 6		
	..	Quarterly do.	1 11 0		
	..	Rent of Lecture Hall		1 1 0	
	..	Fines		1 2	2 15 8
	15	Weekly Members	2 6		
	..	Quarterly do.	1 10 0		
	..	Sale of Papers.....		3 10	1 16 4
			5 0	3 1 0	1 6 0
					4 12 0

The right hand page should be in the following form :—

PAYMENTS.

Cr.

Date.		Read-ing Room.	Classes.	Library.	Mis-cella-neous.	Total.
1863.						
Jan.	8	Teachers	6 3			6 3
	..	J. Wood, Books, Stationery, &c.	12 6	2 0	1 10 0	2 4 6
	12	Lecture Expenses			1 15 0	1 15 0
	15	Librarian's Salary		10 0		10 0
			12 6	8 3	2 0 0	1 15 0
						4 15 9

The additions of each column, as well as the total in the right hand column, should be carried on from page to page unto the end of the year. By this mode the Cash Book will not only show at any time the total amount of receipts and expenditure, but also the amount under each separate head, so that the sources of income may be readily ascertained, and also the separate cost of each department of the Institute.

Assuming that all transactions are in cash, the book described would suffice for every purpose. But as there may be quarterly bills for goods supplied, or, at any rate, something owing at the time of making the periodical statements, it is absolutely necessary that any such liabilities should be set forth. Accounts may be opened with any persons to whom the Institution stands indebted by appropriating a few pages of the Cash Book, to which they might be posted from the invoices, such invoices being pasted in a guard book and numbered progressively. Invoices whose items belong to more than one head should be analysed (most conveniently in *red ink*), and when the accounts are paid they should be entered in the Cash Book under their appropriate heads. Thus, John Wood, a bookseller, may have sent an account which will fall under the following heads :—

Library.	Reading-room.	Classes.
£1 10s.	12s. 6d.	2s.

In making, say a quarterly statement, then, it will be obviously easy to transcribe the totals direct from the Cash Book, with the balances brought forward and to be carried on. The balance brought down being either added to, or reduced by, the debts, as these may be in favour of or against the Institution.

It is convenient to have another statement showing the proceedings strictly proper to the quarter; this would consist in the first place of all receipts belonging to the period and all expenses. Thus, under "Receipts," any sums might be deducted on the one hand for arrears, and on the other for payments in advance; and under "Expenditure," bills paid for goods supplied in previous quarters should be deducted, and the unpaid bills for the quarter to which the statement refers should be added.

Another portion of Institutional Book-keeping relates to the admission of Members, and keeping a record to show whether their subscriptions are duly paid. For this purpose two books should be used, one for those who make weekly payments, and the other for members who pay quarterly or at longer intervals. The book for weekly payments should be of large size, ruled in columns over both pages. The first column should contain consecutive numbers, the second the member's name, then his address and occupation, and these should be followed by fifty-two columns, one for every week in the year, in which the entries of payments should be made in pence. Each column in succession should be added up at the end of the week and the total entered in the cash book. When the payment is made it

should also be entered on the member's ticket, which should be ruled for one year. The following is a specimen of a portion of the book :—

1863.																
No.	Name.	Address.	Occupation.	Entered.	January.				February.				March.			
					8	15	22	29	5	12	19	26	5	12	19	26
1	John Jones	Smith Street	Spinner..	Jan. 8	9	3	3	6	*	6	*	3	3	-	6	-
2	William Brown ..	Arbour Court	Mechanic	"	9	6	*	3	3	-	6	3	6	*	-	6
3	George Cook	John Street..	Weaver..	"	12	*	6	*	6	*	6	*	6	6	*	
4	Thomas Baker ..	High Street..	Draper..	Jan. 15	12	*	6	*	3	3	6	*	6	*		
5	A. Thomas	Monk Street	Spinner..	"	9	3	-		6	3	-	6				
					30	30	12	15	15	12	15	18	15	6	12	6

The mark * implies that the payment for that week has been made in advance. The mark - implies that the subscription for that week is in arrear. The ruling should be continued across the two pages unto the end of the year, and the column for each week should be added up and entered at the end of every week in the Cash Book.

The following is a specimen of a Ticket for weekly members, the number on which, as well as the entry of payments, should correspond with the entries in the book. The member should produce his ticket every time he pays his subscription. It will be seen that by this mode very little trouble is given, as for every payment it is only necessary to make one figure in the book and another on the member's ticket.

..... MECHANICS' INSTITUTE.												
No. 3.			George Cook.						1863.			
	J.	F.	M.	A.	M.	J.	J.	A.	S.	O.	N.	D.
1st Week ..	12	6	6									
2nd " ..	*	*	*									
3rd " ..	6	6	6									
4th " ..	*	*	*									
5th " ..												

The book for quarterly and other payments should be ruled on each page for the four quarters of the year. The first column to contain consecutive numbers, followed by the names and addresses of the members, as below :—

No.	Member.	Address.	Occupation.	Entd.	Jan.	April.	July.	Oct.
1	W. Short	Lant Street	Draper	1 Jan.	2 6	2 6	5 0	* * *
2	B. Blake	East Street.	Grocer	"	5 0	* * *	2 6	* 2 6
3	T. Lee	Bold Street.	Clerk	"	2 6	2 6	2 6	* 2 6
4	W. Carter	Hill Street..	Gentleman..	"	1 1	* * *	* * *	* * *
					111 0	5 0	10 0	5 0

The following is a specimen of a Ticket for quarterly and other members :—

<p>..... MECHANICS' INSTITUTE.</p> <p style="text-align: center;">—————</p> <p style="text-align: center;">MEMBER'S TICKET.</p> <p style="text-align: center;">—————</p>	
<p>No. 3.</p> <p style="text-align: center;"><i>Mr. THOMAS LEE,</i></p> <p>To 31st March,</p> <p style="text-align: center;">.....</p>	<p style="text-align: right;">1863.</p> <p style="text-align: right;"><i>Secretary.</i></p>
<p style="text-align: center;">—————</p> <p>NOT TRANSFERABLE.—A member lending it will be fined 2s. 6d. for the first offence, and for the second be expelled from the Institute.</p>	

In the text of the “Hand-book” the preparation of a periodical estimate of receipt and expenditure is recommended, and we may mention here the desirableness of having all such estimates and systematic digests of facts entered in a book so as to be easy of reference.

These hints may be concluded with the general suggestions to have the financial state of the Institution, and the number of Members paid up, brought frequently before the Committee; to have a person to collect Subscriptions in arrear, and report the reasons for the secession of Members; to canvass the neighbourhood for new subscribers, by house to house visitation, on the formation of an Institution, and subsequently every quarter.

APPENDIX B.

RULES OF THE YORKSHIRE UNION OF MECHANICS' INSTITUTES.

FIRST.—That the Society be called “THE YORKSHIRE UNION OF MECHANICS' INSTITUTES;” and that all Institutions including amongst their objects the intellectual advancement of the operative classes, and in which scientific lectures are given, shall be admissible to the Union.

SECOND.—That the Societies present by deputy be members of the Union, and that the mode of admission in future shall be by a majority of the votes of the delegates at the Annual Meeting; provided the Society seeking admission shall forward to the Secretary of the Central Committee a written application, signed by its Secretary, and a copy of its Rules. The Central Committee may admit Institutes to the Union subject to confirmation at the next Annual or Special Meeting.

THIRD.—The management of the affairs of the Union shall be intrusted to a Central Committee, consisting of a President, Two Vice-Presidents, Treasurer, Two Secretaries, and Ten Members of Committee of the Mechanics' Institution in and within an available distance from the town in which the Committee is located. That the Committee shall meet at least once a quarter, three to be a quorum. That the business of the Committee shall be to negotiate with Lecturers of eminence on behalf of the associated Institutes, and to correspond from time to time with the latter, as opportunities of engaging Lecturers may occur, to ascertain what number of the Institutes are desirous of their services. The Committee shall be empowered to fill up any vacancies which may occur during the year in their officers or members, and generally to be the medium of communication in any plans of co-operation between the whole or any number of the Institutions in the Union ; and that Leeds be the seat of the Central Committee.

FOURTH.—That the expenses of the Central Committee shall be exclusively confined to the salaries of the officers, as the same shall be fixed by them, to the cost of advertisements, of postage, of the annual meetings, the printing of the Report, and the copying of Lectures, stationery, &c. ; and that the same shall be defrayed by the associated Institutes, in the manner following :—Institutes having less than 70 members and subscribers, 5s. per annum ; those having more than 70 and less than 150, 10s. per annum ; and those having 150 or upwards, 20s. per annum.

FIFTH.—That it shall be one of the objects of the Union to promote the exchange and circulation of Lectures and Papers among the associated Institutes ; that the Secretaries and Committee shall obtain as many Lectures as they can for this purpose,—all the Lectures being subject to the approbation of the Committee at its Quarterly Meetings, and, in the intervals of those meetings, of the President ; that, in order to render the Lectures as available as possible, it be required that every Lecture shall be returned to the Secretaries within a fortnight after it shall have been received ; and that any expense of carriage shall be borne by the Institutes receiving the Lectures.

SIXTH.—That an Annual Meeting of one Delegate from each Institute having less than 200 members and subscribers, and of two Delegates from each of those having 200 or more, shall be held, to audit the accounts of the Central Committee, to receive the Report of the Union for the preceding year, to appoint a new Committee, to fix the place of the next Meeting, and to confer upon any suggestions or new plans, relating either to the local management of Mechanics' Institutes, or to the business of the Union ; the time of meeting to be fixed upon by the Central Committee, and that five weeks' previous notice of the same shall be given by the Secretaries.

SEVENTH.—That fourteen days prior to the Annual Meeting, each Institute shall transmit to the Central Committee a condensed Report of its operations for the year, and of its present state as to numbers and efficiency.

EIGHTH.—That no alterations in the laws of the Union shall be made, except at the Annual Meeting ; nor shall any propositions be entertained then, unless notice of the same in writing shall have been sent to the Secretaries of the Central Committee at least one month previous, and been by them duly notified at least three weeks before the day of Meeting, to every Society in the Union ; and that, at the desire of two Delegates, any question shall be decided by ballot.

NINTH.—That no Institution shall be allowed to separate from the Union, except at the Annual Meeting ; nor then, unless it shall have given one month's previous notice to the Secretaries of the Central Committee.

TENTH.—That the Central Committee shall be required to call a Special Meeting of Delegates, provided two-thirds of the Institutes in the Union request it so to do. The Central Committee in such case shall forthwith give one month's notice of the day of meeting to all the Institutes in the Union, and shall give sufficient details of its objects.

APPENDIX C.

HINTS TO PERSONS WISHING TO ESTABLISH A MECHANICS' INSTITUTE FOR A SMALL TOWN OR VILLAGE.

The following brief description of the principal features of a Mechanics' Institute for a small town or village is published with the object of supplying hints for their formation and management.

The building should comprise a Library and Committee-room, a commodious Reading and News-room, and at least two Class-rooms. For Lectures, the use of a National School-room can in most instances be obtained. The advantages offered to the Members should be a well-selected Library of at least 300 volumes, a Reading and News-room, Classes for mutual improvement and for elementary instruction. Female Classes for Reading, Writing, and Plain Needlework, a class for the practice of Choral Singing, and occasional Lectures of a popular character on literature, science, music, &c.

SUBSCRIPTIONS.—Members paying 21s. a year should be entitled to all the advantages of the Institution, with the privilege of nominating two pupils to the Elementary Classes, on the payment of one penny a week. Members paying 10s. 6d. a year, or 3s. a quarter, should have the privilege of nominating one pupil of the elementary classes. Pupils of Classes should pay not less than 3d. a week for males, and 2d. for females, with all the privileges of the Institute but the Reading-room during class hours. All weekly members should pay an entrance fee of 6d. The Secretary or Librarian should attend one or, if possible, two evenings in the week, to receive subscriptions and exchange books from the Library.

THE READING AND NEWS-ROOM should be supplied with one daily, one weekly, and one or more local newspapers, with a number of cheap

periodicals of good moral character, with, if possible, some of the magazines. The expense of newspapers may be considerably reduced by the re-sale of them. The periodicals, if bound, will form useful additions to the Library.

THE ELEMENTARY CLASSES should meet on Mondays, Tuesdays, Thursdays, and Fridays, and be under the management of a competent paid Teacher, with unpaid Assistants. Wednesdays should be devoted to Female Classes, and Saturdays to Vocal Music. In the Female Classes, instruction in plain needlework should be accompanied with reading aloud to the Pupils. Cheap materials may be supplied, and the garments made be sold at prime cost.

MUTUAL IMPROVEMENT CLASSES should meet in the second Class-room, and the subjects selected for study should be such as would qualify the students for the examinations of the Society of Arts.

AN ANNUAL SOIREE should be held sometime in the Autumn, at which tea, &c., should be provided at a moderate charge, and the entertainment should comprise Musical performances and addresses in advocacy of the claims of the Institute to public support. This should be followed immediately by the appointment of small Sub-Committees and an active canvass of the locality, with the services of a Collector, who should be paid a commission on his receipts.

THE ANNUAL MEETING should be held early in the year—say in February or March, when the Report of the Committee showing the progress of the Institute during the past year, and the Treasurer's account of receipts and payments, should be presented. The Officers for the ensuing year should be elected, and other business transacted.

THE COMMITTEE OF MANAGEMENT should meet at least once a month, to arrange for Lectures, &c., make orders on the Treasurer for payments, and transact such other business as may be required.

All receipts from whatever source should pass through the hands of the Secretary, and by him be paid to the Treasurer once a week.

Donations may be expended in the increase of the Library, except such as may be especially intended for the erection of a building or other specific purpose.

An examination of the pupils of Evening Classes should be held once a year, towards the close of the Winter season, and small prizes may be awarded to the most deserving.

It may be interesting to state that a building, to consist of a spacious Lecture-room, a commodious Reading-room, a Library and Committee-room, three Class-rooms, with a living and bed-room for the house-keeper, approached by separate entrances, may be erected for about £500, exclusive of the cost of the site. For plans and details of such a building, see the pamphlet published by the Committee of the Yorkshire Union of Mechanics' Institutes.

In order to facilitate the keeping of accounts of weekly receipts, and to diminish the labours of the Secretary or Librarian, a book should be kept containing the names of the members with consecutive numbers, and ruled with 52 columns, one for each week in the year. Each

payment should be entered in pence, in the column of the week, against the name and number of the member paying. The addition of each column will show that week's receipts, and the addition of each horizontal line will show the amount paid by each member.

Each of the weekly paying members should be furnished with a card, to contain his name and number, with the name of the Institution, and date of the year. It should be divided by lines into squares, representing the several weeks of the year, and every payment should be entered on the corresponding square of the card.

APPENDIX D.

WHAT MECHANICS' INSTITUTES MAY DO.

Wherever a Mechanics' Institute is established, an active and intelligent Committee may bring the benefit of systematic organisation to bear upon several modes of social amelioration and improvement, and this may be done without in any way impairing the efficiency of the Institute, but rather tending to give it a stronger hold upon public support from its greater practical usefulness.

One of the most valuable means of supplementing the operations of a Mechanics' Institute, particularly in places where there are large numbers of working men, is the formation of a Penny Savings Bank. The chief difficulty will be found in the profitable and secure investment of the deposits. This has been obviated in Yorkshire, where many of the Institutes have formed branches of the Yorkshire Penny Savings Bank, an Institution under competent management, and in which the depositors have the advantage of an ample Guarantee Fund subscribed by several of the wealthiest men in the county. Such an Institution might, however, be established in other counties with manifest advantage to the several Institutes and the working people generally.

In order to carry out the operations of the Yorkshire Penny Savings Bank, it is required by the Central Committee that those who intend to establish a branch shall form a Committee, consisting of President, Actuary, Secretary, Auditor, and as many Committee-men as will be sufficient, efficiently and conveniently, to work the branch bank. The branch should be open, at least, weekly, at such hour as may be most convenient for depositors. The Actuary and two other members of the branch Committee must be present at each meeting. The Actuary should remit all the deposits received by him to the Central Bank, or to the District Treasurer, where one has been appointed, immediately after the receipt thereof. The books, cheques, returns, and forms provided by the Central Bank, should be the only ones used in the business of branches.

The whole business of a branch bank need not take more time than an hour and a quarter in each week.

These regulations being attended to by the branch bank, the advantages it receives from the Central Bank are :—a guarantee for the safety of all deposits as soon as they are received by the Treasurer of the Central Bank—a regular check and audit of the accounts of the branch—interest to the depositors of three per cent. upon each sum of one or more pounds deposited for every whole month during which it is deposited—an allowance of one-half per cent. upon the balance which stands to the credit of the branch bank, at the Central Bank, on 31st December in each year—an annual audit by which every depositor can check the amount of his own deposit without it being known, as such, to any other depositor. The rules are certified under Government. Depositors may, without expense or trouble, transfer their deposits from one branch to another as they may change their places of abode.*

Another mode by which the Committee of an Institute may promote the healthful recreation of the members, and at the same time encourage a taste for the practical study of Botany, is by a system of Garden Allotments. For this purpose a piece of ground, conveniently situate, should be rented, and divided into portions of about forty poles or less. These should be let to the members who are willing to take them at an improved rent, so as to cover the unavoidable expenses of management; and conditions of good cultivation and membership of the Institute should be indispensable qualifications for holding them. A stimulus might be given to good culture by occasional exhibitions of produce, with small prizes for fruit, flowers, and vegetables. It is almost impossible to over-estimate the beneficial influence of such evening employment, especially in places where gardens are not attached to cottage residences.

One of the most formidable obstacles to the moral and social welfare of the working classes of this country is the want of suitable dwellings, the majority of those which have been hitherto available being destitute of the means of draining, ventilation, cleanliness, and that separation of sleeping accommodation which is indispensable for the decencies of civilised life. To obtain a remedy for this evil, working men may do much if their energies be properly directed, and for this end the organisation of a Mechanics' Institute may prove of great value. In Leeds a Society has been formed "for the erection of improved dwellings," and, under the management of a judicious Committee, who are chiefly connected with the Mechanics' Institution, their efforts have hitherto been very successful. They commenced with the purchase of a piece of land, on which a block of cottages was built, upon the most approved plans, under the direction of an able architect. Upon their completion they were readily purchased by working-men on payment of one-fourth the cost, and the remainder by weekly instalments, to extend over thirteen years and six months, at the end of which term each house will become the unincumbered freehold of the purchaser, who has paid little, if any, more than ordinary rent. The Committee then purchased

* Further information may be obtained on application to the Secretary, Mr. W. M. Nelson, 2, East Parade, Leeds.

another plot of land, upon which more houses were built, and as readily disposed of upon similar terms, and as each successive block has found purchasers the Committee have continued their labours, the money for three-fourths of the cost being provided by the Leeds Permanent Building Society. The houses are of two sizes. The smaller ones contain a front living room 15 feet 4 inches by 14 feet, and 9 feet 8 inches high; scullery 15 feet 4 inches by 10 feet, and 8 feet 3 inches high, both on the ground floor; a pantry under the kitchen of the same dimensions, and under the scullery a place for coal. Over the kitchen is a bed room 15 feet 4 inches by 14 feet, and 9 feet high; and a bed room over the scullery 15 feet 4 inches by 10 feet, and 9 feet high—the whole having a cubic area of 10,807 feet. In the front of each house is a garden, containing 22 yards, and at the back a yard, with an area of 40 yards, with ashpit, &c. There is bed room accommodation for six persons, allowing 500 cubic feet for each. The larger houses have considerably more cubic area, having a small scullery on the ground floor, in addition to the kitchen and front room, and two large attics,—making altogether four bed rooms. The cost of the larger houses is about £188, and of the smaller ones £142. For the former the weekly payment would amount to about 5s. 6d., and for the latter about 4s.

APPENDIX E.

DIAGRAMS FOR LECTURES.

Pictures and Diagrams for the illustration of Lectures are published by the Working Men's Educational Union, 25, King William Street, London, W.C. They may be had in sets, or singly at the rate of 3s. per diagram, and can be provided with frame and eyelets for convenient suspension. Subscription to the Union £1 1s. a year, and subscribers are entitled to a reduction of 25 per cent. on the price of the Diagrams.

Series on the Solar System, Eclipses, Comets, &c., 18 Diagrams, £2 14 0			Price of Set.
"	Remarkable Constellations	5	" 0 15 0
"	The Clusters and Nebulae	6	" 0 18 0
"	Physiology in Relation to Health	10	" 1 10 0
"	Eastern Habitations	10	" 1 10 0
"	Domestic Arrangements	10	" 1 10 0
"	Fulfilled Prophecy	13	" 1 19 0
"	The Seven Churches in Asia	8	" 1 4 0
"	The Tabernacle of the Israelites	9	" 1 7 0
"	The Cities of Palestine	12	" 1 16 0
"	Mountains of the Bible	9	" 1 7 0
"	Types of the Bible	8	" 1 4 0
"	Travels of the Apostle Paul	20	" 3 0 0
"	Paganism	6	" 0 18 0
"	The Catacombs at Rome	21	" 3 3 0

		Price of Set.	
Series on the Human Eye and Telescope.....	6 Diagrams,	£0 18	0
„ The Microscope.....	6 „	0 18	0
„ Life in Australia	10 „	1 10	0
„ Progress of the Art of Travelling....	12 „	1 16	0
„ The Mechanical Powers	3 „	0 9	0
„ The Steam Engine	9 „	1 7	0
„ The Remains of Nineveh	20 „	3 0	0
„ The Literary History of the Bible ..	15 „	2 5	0
„ The Book and its Missions	15 „	2 5	0
„ The Reformation in England	10 „	1 10	0
„ The Monuments of Egypt	14 „	2 2	0
„ The Remains of Pompeii	10 „	1 10	0
„ Hindustan and the Hindus.....	28 „	4 4	0
„ China and the Chinese.....	12 „	1 16	0
„ Travels and Discoveries of Dr. Living- stone	14 „	2 2	0
„ Britain under the Romans	10 „	1 10	0
„ The Druids and Druidism	6 „	0 18	0
„ Geology	15 „	2 5	0
„ Volcanoes	7 „	1 1	0
„ Natural History	15 „	2 5	0
„ Missionary Scenes	11 „	1 13	0
„ The Pilgrim Fathers	10 „	1 10	0
„ Bunyan's Pilgrim's Progress	20 „	3 0	0
„ Ethnology	5 „	0 15	0

Diagram of One Million Points, 26s. 8d. ; Map of India, 12s. ; Map of Palestine, 6s. ; and Panoramic View of Jerusalem, 12s.

Frames for Hanging Diagrams, 2s. 6d. each. Eyelets added to Diagrams, to order, from 6d. upwards, per set of Diagrams, according to number.

WORKS RECOMMENDED ON THE SUBJECTS ILLUSTRATED.

[LL recommended for Working Men's Libraries as well as Lecturers ; L, for Lecturers only.]

THE SOLAR SYSTEM.

- LL The Solar System, by Dr. Dick (Jones) ; 1s. 6d.
- LL The Orbs of Heaven, by O. M. Mitchell, M.A. (Routledge) ; 2s. 6d.
- LL Celestial Scenery, by Dr. Dick (Ward) ; 5s. 6d.
- L A Treatise on Astronomy, by Sir John Herschel, Bart. (Longmans) ; 3s. 6d.
- LL A Guide to Astronomical Science, by Dr. Mann (Jarrold) ; 3s. 6d.
- LL The Mechanism of the Heavens, by Olmsted (Nelson) ; 5s.

THE CONSTELLATIONS, &c.

- L The Sidereal Heavens, by Dr. Dick (Ward) ; 5s. 6d.
- L Stellar Universe, by Nichols (Johnstone) ; 5s.

PHYSIOLOGY AND HEALTH.

- LL Rudiments of Animal Physiology, by Dr. Hamilton (Chambers); 1s. 6d.
- LL Good Health—Obtaining and Keeping it (Jones); 6d.
- LL The House I Live in (Parker); 2s. 6d.
- LL A Guide to the Knowledge of Life, by Dr. Mann (Jarrold); 4s.

SCRIPTURE ILLUSTRATION.

- L Eastern Habitations, by J. Kitto, D.D. (W. M. Educational Union); 8d.
- L Domestic Arrangements of the Orientals, by J. Kitto, D.D.; 8d.
- LL The Jewish Nation (Jones); 5s.
- LL Scripture Manners and Customs (Christian Knowledge Society); 5s.
- L The Seven Churches of Asia, by Rev. R. Maguire, M.A. (Knight); 2s. 6d.
- LL The Rites and Worship of the Jews (Jones); 1s. 6d.
- LL The Land of Promise, by J. Kitto, D.D. (Jones); 5s.
- LL Ancient Jerusalem (Jones); 6d.
- LL Modern Jerusalem (Jones); 6d.
- LL The Mountains of Scripture (Christian Knowledge Society); 2s. 8d.
- LL The Land and the Book, by Dr. Thompson (Nelson); 7s. 6d.

TRAVELS OF THE APOSTLE PAUL.

- L Handbook to the Diagrams, by Rev. J. S. Howson; 6d.
- L Life and Epistles of St. Paul, by Conybeare and Howson (Longmans); 31s. 6d.

THE CATACOMBS AT ROME.

- LL The Contents and Teachings of the Catacombs at Rome (Longmans); 2s. 6d.
- L The Church in the Catacombs (Longmans); 14s.

OPTICS.

- LL The Telescope and the Microscope, by T. Dick, LL.D. (Jones); 6d.
- LL Optics (Chambers); 1s.
- LL Half Hours with the Microscope (Hardwicke); 2s. 6d.

MECHANICS.

- LL Mechanics and Mechanism, by R. S. Burn (Ward); 2s.

AUSTRALIA AND AUSTRALIAN LIFE.

- LL Australia, its Scenery and Resources; Australia and its Settlements (Jones); 6d. each.

LOCOMOTION.

- LL The Progress of Locomotion, by Benjamin Scott; 1s.

THE STEAM ENGINE.

- LL A Treatise on the Steam Engine, by Dr. Lardner (Weale); 1s.
- LL The Steam Engine, by R. S. Burn (Ward); 2s.

ASSYRIA, NINEVEH, AND NIMROUD.

- LL Nineveh, by A. H. Layard (Murray); 5s.
- LL Nineveh and its Palaces, by Bonomi (Illus. London Library); 6s.

LITERARY HISTORY OF THE BIBLE.

- LL The Book and its Story (Kent); 2s. 6d.

BIBLE CIRCULATION.

- LL The Book and its Missions (Kent); 2 vols., 5s.

THE REFORMATION IN ENGLAND.

- L First Lessons on the English Reformation, by Woodward (Ward); 1s.
Key to Diagrams on the Reformation; 3d.

GEOLOGY.

- LL Chambers' Rudiments of Geology; 2s. 6d.
LL Geology, by F. C. Bakewell (N. Cooke); 2s.
L Reynolds' Card Diagrams on Geology (174, Strand); 1s. each.
LL The Earth's Antiquity, by Rev. J. Gray (Parker); 5s.
LL Hitchcock's Religion of Geology (Collins); 2s.

VOLCANOES.

- LL Volcanoes: their History, Phenomena, and Causes (Jones); 6d.

EGYPT.

- LL Egypt: or Hints for Lectures, by C. T. Jones; 6d.
LL The Egyptian (Jones); 1s. 6d.
LL Ancient Egypt: its Monuments and History (Jones); 6d.
Israel in Egypt (Seeley); 5s.

POMPEII.

- LL Pompeii: its Past and Present State (Nattali); 2 vols., 4s. 6d.

HINDUSTAN AND THE HINDUS.

- L Book Descriptive of the Diagrams; 8d.

CHINA AND THE CHINESE.

- L Book Descriptive of the Diagrams; 6d.

RECENT AFRICAN DISCOVERIES.

- LL Missionary Researches in Southern Africa, by Livingstone (Murray); 21s.

NATURAL HISTORY.

- LL Maunder's Treasury of Natural History (Longmans); 10s.
LL White's Popular History of Mammalia (Reeve); 10s. 6d.

ETHNOLOGY.

- Pritchard's Natural History of Man (Bailliere); £1 18s.
Plates to ditto, £1 4s.
Kennedy's Natural History of Man (Kent); 1s. 6d.

MISSIONARY SCENES.

- L Key to Seventeen Diagrams (Gospel Propagation Society); 6d.

THE PILGRIM FATHERS.

- LL An Hour with the Pilgrim Fathers, by B. Scott (Longmans); 6d.
LL The Pilgrim Fathers (Hall); 10s. 6d.

- L Practical Hints to Unpractised Lecturers to the Working Classes; 8d.

APPENDIX F.

WEST RIDING EDUCATIONAL BOARD.

The establishment of a system of Examinations by the Society of Arts for the members of Mechanics' Institutes, followed by the scheme of Elementary Examinations by the Central Committee of Educational Unions, together with the Local Examinations of the Universities for pupils of middle-class Schools, and for Science Classes by the Department of Science and Art, rendered almost indispensable an organised Committee of Local Examinations, in order that the important duties of arrangement and supervision should be conducted on a permanent basis and systematic plan. It was found by experience that efforts of this kind, however praiseworthy and zealous, were desultory and irregular; and that much difficulty was felt in obtaining the services of gentlemen able and willing to perform the required duties, whilst the inevitable expenses rendered necessary repeated appeals for pecuniary aid. As the system of Examination, and the award of certificates and prizes, as a stimulus to education, were being largely extended, it also became indispensable to the value attaching to their results, that the duty of conducting them should be undertaken by a responsible and impartial Board, comprised of the representatives of Educational Institutes, and others interested in the great work of mental cultivation. To carry out this object, the West Riding Educational Board was established in December, 1859, and the great success which has attended its subsequent operations has amply proved the wisdom of the step which was taken. It was not only designed to give a permanent character to the Examinations, but also to stimulate local efforts, so that a knowledge of the advantages to be gained might be disseminated as widely as possible; and it was also desirable to obtain that security for impartiality, as well as the greatest possible benefits from systematic action, which could only be achieved by the organisation of a united body.

The West Riding Educational Board, which holds its sittings in Leeds, is composed of the Mayor for the time being as chairman, the two Members of Parliament for the borough, the Vicar of Leeds, the Head Master of the Grammar School, two representatives of the Leeds Philosophical and Literary Society, two of the Leeds Mechanics' Institution, two of the Leeds Church Institute, two of the Yorkshire Union of Mechanics' Institutes, one each of the Holbeck and Hunslet Mechanics' Institutes, and about ten of the neighbouring clergy and gentry.

During the year 1860 the Board conducted the Society of Arts' Examinations, both Preliminary and Final, at which thirty-two certificates were awarded to nineteen candidates; and also the Local Examinations of Oxford University, at which there were fifty-five candidates, and £31 was distributed in local prizes.

In 1861 the Board conducted the Preliminary and Final Examinations of the Society of Arts, at which thirty-two certificates were

awarded to twenty-three candidates; and the Local Examinations of Oxford University, at which there were fifty-five junior and thirteen senior candidates, of whom fifty-six passed, being a higher proportion than at any other place in the kingdom.

In 1862 the Board conducted the Elementary Examinations, at which there were fifty senior and twenty-eight junior candidates, and certificates were awarded to twenty-eight of the former and fifty of the latter; also the Preliminary and Final Examinations of the Society of Arts, at which thirty-six certificates were awarded to twenty-two candidates; and the Science Class Examinations of the Department of Science and Art, at which seven candidates passed. The Board also conducted the Oxford University Examinations, in June, at which there were fifty-eight candidates; the Durham University Examinations, in October, with twenty-six candidates; and the Cambridge University Examinations, in December, with sixteen candidates.

The West Riding Educational Board has thus proved a most efficient organisation for the purpose for which it was established. Its expenses are met by voluntary contributions; and it has been the means of making known the advantages of the several Examinations which it has conducted to the large population of the great county of York.

SOCIETY OF ARTS' EXAMINATIONS.

Any person, male or female, not under sixteen years of age, may undergo the examinations described in the following programme. They were established to encourage, test, attest, and reward efforts made for self-improvement, by adult members and students of the Mechanics' Institutions, Athenæums, People's Colleges, Village Classes, and other Educational Bodies of the like character, in Union with the Society of Arts. Such members and students are commonly mechanics, artisans, labourers, clerks, tradesmen, and farmers, not in a large way of business, apprentices, sons and daughters of tradesmen and farmers, assistants in shops, and others, of various occupations, who are not graduates, undergraduates, or students of a University, nor following nor intending to follow a learned profession, nor enjoying nor having enjoyed a liberal education. To all such members and students, and also to persons of the like condition in places where there are no Institutions able to enter into the Union, the Examinations, Certificates, and Prizes are offered by the Society of Arts.

Teachers and pupil teachers may be examined and receive Certificates, but cannot compete for Prizes.

Persons of a different grade in society, though their admission to the Examinations with the view of obtaining Certificates is provided for, cannot compete for Prizes.

Every Candidate for Examination must be admitted through a Local Educational Board connected with the Society of Arts, and be at least sixteen years of age.

- | | | |
|---|---|---------|
| (A.) Members of, or students of classes in, Institutions in direct Union with the Society of Arts, are admitted | } | Free. |
| (B.) Members of, or students of classes in, "small Institutions" * not in direct Union with the Society of Arts, but connected with a Provincial Union that is "in Union" with the Society, are admitted on payment of a fee of | | |
| (C.) In districts where there are no Institutions at all, or only "small Institutions," * Local Educational Boards, paying one guinea a year to the Society of Arts, may admit candidates on payment of a fee of | } | 2s. 6d. |
| (D.) Persons of a higher class of society than those described in paragraph 1, are admitted to the Examinations on payment of a fee of | | |

N.B.—The Council in every case leave it to the Local Board to decide whether a candidate should pay this fee.

Candidates coming under the head (D) as well as teachers and pupil teachers, though they may be examined and receive certificates, cannot compete for the prizes.

In any locality, whether there be an Institution in union with the Society of Arts or not, the first thing to be done to enable any person to take advantage of the Society's Examinations, is to form a Local Educational Board.

The managers of Institutions in union with the Society of Arts, and other persons desirous to co-operate with the Society in promoting the instruction of adults, are invited to form Local Boards. Each Local Board must consist of at least three members, and with advantage may be much more numerous. There must be a chairman and a secretary. The district for which the Board is to act should be defined; and every Educational Institution† within those limits ought to be represented in the Board. It is of importance that each Local Board should include the representatives of more Institutions than one, and that there should not be more than one Local Board in each locality. The composition of the Board must be such as to command the respect and confidence of the neighbourhood. Where gentlemen of high literary and scientific attainments are willing to serve on the board, their services are of great value; but the necessary work may be done by any well-educated persons of high character and good sense. No member of a Local Board can be a candidate for examination.

A detailed list of the chairman, secretary, and other members of each Local Board, giving not only their names but their addresses and

* Small Institutions are defined as those which have an income of less than £75 a year.

† These Educational Boards, besides superintending the Examinations of the Society of Arts, may advantageously assist in promoting various other plans for the furtherance of Education in their districts; it is, therefore, desirable that they should include representatives not only from the various Institutions for the promotion of adult instruction, but also from the principal schools in the locality. See Central Committee for Elementary Examinations, page 81.

designations, should be submitted to the Council of the Society of Arts before the 1st of January in each year. In some cases the Local Educational Boards comprise such large districts that, for the convenience of the candidates, Branch Local Boards have to be formed within the districts. Whenever this is the case, the names and addresses of the members, both of District Board and of its Branch Boards must be forwarded to the Secretary of the Society of Arts. All changes in the composition of the various Boards now in existence, or to be formed hereafter, should be immediately notified to the Society of Arts.

Local Educational Boards in connection with the Society of Arts need make no payment to the Society, unless they desire to exercise the power of admitting candidates where there are no Institutions in union with the Society of Arts; in which case a subscription of one guinea a year must be paid.

The Society's system of Examinations consists of (1) Previous Examinations by the Local Boards, and (2) Final Examinations by the Examiners of the Society of Arts, under the supervision of the Local Boards.

PREVIOUS EXAMINATIONS BY THE LOCAL BOARDS.

These Examinations are (1) to test the handwriting and spelling of the candidates, their knowledge of English grammar, composition, and the common rules of arithmetic; and (2) to ascertain whether their knowledge of those special subjects in which they seek to be examined by the Society's Examiners is such as to offer a fair prospect of their obtaining certificates. The previous Examinations may be either wholly written, or partly oral and partly written, at the discretion of each Local Board.

HANDWRITING.—A bold, even, round hand, without loops, long tails, or flourishes, should be preferred.

SPELLING, ENGLISH GRAMMAR, AND COMPOSITION.—An extract from some standard English author should be set, into which a few errors of spelling, grammar, and punctuation should be introduced. Some faulty grammatical constructions in common use, and vulgarisms, should be submitted for correction.

ARITHMETIC.—A knowledge of the elementary rules, including the Rule of Three, should be required.

No candidate can be admitted to the Final Examination without a certificate from his Local Board that he has satisfactorily "passed" its previous Examination in the elementary subjects specified, and in the special subjects in which he wishes to be examined by the Society's Examiners. If, in any case, a Local Board should be unable itself to examine a candidate in a special subject, it will be sufficient if that Board notify the fact in the Form No. 4, and add therein that the Board believes the candidate to be fit to be examined in that subject by the Central Board. **N.B.**—This relaxation does not apply to music.

The previous Examinations must be held by the Local Boards sufficiently early to allow the results to be communicated to the Council,

on a Form which should be filled up and returned four weeks before the commencement of the Final Examinations.

Unreserved communications between the Society and the Local Boards will be requisite to secure to the "passes" of the various Local Boards throughout the Union such an uniformity of value as may be attainable.

FINAL EXAMINATION BY THE SOCIETY'S EXAMINERS.

The Forms containing the names of the "passed" candidates, and the subjects in which they desire to be examined, having been returned to the Secretary of the Society of Arts, the printed papers of questions in the various subjects will be prepared by the Society's Examiners, and will be forwarded to the Secretaries of the Local Boards.

The whole of the papers appointed for each of the evenings of the Examination, according to the subjoined Time-table, with the required number of Forms of Declaration, will be contained in a separate sealed envelope, which is not to be opened till the candidates are present, at half-past six on that evening.

The details of the mode in which the Final Examinations are to be conducted, are given in the "Letter of Instructions," and every member of each Local Board should make himself thoroughly acquainted with them.

The Final Examinations must be held *simultaneously on the days and at the hours specified in the following Time-table*, at those places where Local Boards are established.

In choosing the subjects in which they desire to be examined, candidates must take notice of the arrangements of this Time-table, as they *cannot* be examined in *two* subjects which are set down for the *same* evening.

No Candidate may work more than one paper on each evening, and each paper must be worked on the particular evening appointed for it.

Tuesday, From 6.30 to 9.30 p.m.	Wednesday, From 6.30 to 9.30 p.m.	Thursday, From 6.30 to 9.30 p.m.	Friday, From 6.30 to 9.30 p.m.
Arithmetic. Trigonometry. Magnetism, Electricity, and Heat. Agriculture. Mining and Metallurgy. Geometrical Drawing. German.	Book-keeping. Navigation and Nautical Astronomy. Conic Sections. Chemistry. Music. Domestic Economy. English History.	Algebra. Practical Mechanics. Astronomy. Animal Physiology. Political and Social Economy. French. * English Literature.	Geometry. Mensuration. Principles of Mechanics. Botany. Geography. Latin. Logic & Mental Science. Freehand Drawing.

The Local Boards must see, and certify to the Council, in the form which the Council will furnish, that the papers are fairly worked by each candidate, without copying from any other, and without books or other assistance; and must seal up and return the worked papers to the Council *immediately* on the close of each evening's Examination. The papers will then be submitted to the judgment of the Examiners, and certificates of three grades will be awarded.

The names of the candidates who obtain prizes and certificates will

* Two Papers of one hour and a half each in this subject are considered as one.

be published in the *Journal of the Society of Arts*, as soon as the Examiners have pronounced their judgment, and the prizes and certificates will subsequently be forwarded to the Local Boards for distribution.

A candidate who has obtained from the Society a certificate of the 1st class in any subject, cannot again be examined in the same subject.

A candidate who has obtained a certificate of the 2nd or 3rd class may, on the recommendation of the Local Board, be examined in the same subject, in a subsequent year, without again passing the Previous Examination, but the name must always be returned in the proper form. A candidate who, having obtained a certificate in any subject, desires to be examined in some other subject, in a subsequent year, may be "passed" by the Local Board, after examination in that subject, without re-examination in the elementary subjects specified in paragraphs 10, 11, 12.

PRIZES.

THE PRINCE CONSORT'S PRIZE.—His Royal Highness the late President of the Society was pleased to offer annually to the candidate who, obtaining a certificate of the first class in the current year, shall have obtained in that year and the three years immediately preceding it, the greatest number of such certificates, a Prize of TWENTY-FIVE GUINEAS, and this Prize Her Majesty the Queen has graciously intimated her intention to continue. This Prize cannot be taken more than once by the same candidate. It will be accompanied by a certificate from the Society of Arts, setting forth the special character of the Prize, and the various certificates for which it was granted.

A First Prize of £5 and Second Prize of £3 are offered for each of the Twenty-nine subjects. Third Prizes are also occasionally offered for several of the subjects.

No Prize in any subject will be awarded to a candidate who does not obtain a Certificate of the first-class therein.

Nominations to compete for appointments in the Civil Service have been from time to time placed at the disposal of the Council, by members of Her Majesty's Government, and these have been presented to candidates who distinguished themselves at the Society's Examinations.

ELEMENTARY EXAMINATIONS.

CENTRAL COMMITTEE OF EDUCATIONAL UNIONS IN CONNECTION WITH THE SOCIETY OF ARTS.

I. The Central Committee consists of two representatives of each Provincial and District Union and Adult Educational Society, four members of the Council of the Society of Arts, the Chairman of the Society's Central Board of Examiners, and six representatives of Local Educational Boards.

II. The object of the Central Committee is to promote uniformity of action and a fixed standard in the Elementary Examinations held by the various bodies in connection with the Society of Arts.

III. The Central Committee provides for common use a scheme of two Elementary Examinations, consisting of two sets of papers, one suited for junior, the other for senior candidates, with corresponding Forms of Certificate, to be awarded by the local authority under which the Examination has been conducted.

IV. The certificate of a Senior Candidate, of sixteen years of age, will be received without any further "Previous Examination," as a "pass" to the Final Examinations of the Society of Arts, if accompanied by a certificate from the Local Board or Union, that the candidate is fit to be examined in the special subject or subjects in the Society of Arts Programme in which he or she proposes to be examined.

V. The Society of Arts prints and distributes, at cost price, the Examination Papers, Certificates, and Circulars, and provides for the correspondence of the Central Committee.

VI. The Elementary Examinations are not intended to be in any degree competitive. They are open to persons of either sex and of any age.

VII. To prevent the possibility of unfair advantages being taken from a premature knowledge of the Examination Papers, the Examinations must be simultaneous everywhere.

VIII. In any case in which a Local Examining Body may examine candidates in the doctrines of Holy Scripture, in the Prayer Book, or in any other religious formulary, the results of such Examination may be stated, by that Local Examining Body, on the certificate; though the Central Committee, representing a variety of opinions, does not itself provide for Examinations in religious doctrine.

IX. The Secretary of each Union, Society, or Board, which desires to use the Examination Papers of the Central Committee, must apply for the requisite forms to "The Secretary, Central Committee for Elementary Examinations, Society of Arts, John Street, Adelphi, London, W.C."

SCHEME OF THE EXAMINATIONS.

JUNIOR CANDIDATES.

1. Every candidate must be examined in the first four rules of Arithmetic, simple and compound, and in any two of the three following subjects :—

A. A general knowledge of the Gospel History.

B. The rudiments of English History.

C. The rudiments of the Geography of England.

2. Female candidates must also be examined in plain needlework.

3. Fair writing and spelling, with good reading of a simple narrative, will be required of every candidate.

4. A satisfactory examination will entitle the candidate to a certificate.

SENIOR CANDIDATES.

1. Every candidate must be examined in Arithmetic, including the Rule of Three, Decimal and Vulgar Fractions, and in any two of the three following subjects :—

A. The facts of St. Mark's Gospel and the Acts of the Apostles.

B. English History from the accession of James the First to the death of Anne, with the rudiments of the history from the Conquest.

C. Geography of the British Isles.

2. Every Female candidate must show proficiency in needlework.

3. All candidates will be required to exhibit in their papers a fairly good hand-writing, spelling, and knowledge of grammar.

4. A satisfactory examination will entitle the candidate to a certificate.

APPENDIX G.

SCIENCE CLASS INSTRUCTION.

I. The Science and Art Department of the Committee of Council on Education aids the industrial classes in procuring instruction in the following Sciences :—

Group	I.	Subjects	(1) Practical, Plane, and Descriptive Geometry.
		"	(2) Mechanical and Machine Drawing.
		"	(3) Building Construction, or Naval Architecture.
"	II.	"	(1) Theoretical Mechanics (2) Applied Mechanics.
"	III.	"	(1) Acoustics, Light, Heat, (2) Magnetism and Electricity.
"	IV.	"	(1) Inorganic Chemistry (2) Organic Chemistry.
"	V.	"	(1) Geology (2) Mineralogy.
"	VI.	"	(1) Animal Physiology (2) Zoology.
"	VII.	"	(1) Vegetable Physiology and Economic Botany (2) Systematic Botany.
"	VIII.	"	(1) Mining (2) Metallurgy.

II. The assistance granted by the Science and Art Department is in the form of—

1. Payments on results to certificated teachers.
2. Grants towards the purchase of apparatus, &c.
3. Public examinations in which Queen's Medals, Honorary Certificates, and Prizes, are awarded to all successful candidates, whether taught by a certificated teacher or not, held at all places complying with certain conditions. On the results of these examinations the payment on results are made to the teachers.

III. Examinations for certificates* to teach any of the before-named sciences are held annually by the Science and Art Department, commencing in the first week in November, at South Kensington. Any person whatever may attend this examination by sending in his name to the Secretary of the Science and Art Department, before the 1st October, stating the subject or subjects in which he wishes to be examined. Certificates of three grades are given in each group and each subject. These certificates are only considered as simple *records of the result* of examination in the various sciences before mentioned, entitling the teacher to earn payments by successful teaching in the subject for which he is certificated.

IV. Suitable premises, with firing, lighting, &c., must be found and maintained at the cost of the locality where the school or class is held. If at any time the funds do not cover these requisite local expenses, it must be inferred that there is no such demand for instruction in the locality; and the assistance of the Department will be withdrawn.

V. A Local Committee of not less than five well known responsible persons must be formed in connection with every Science Class, who will carry out the instructions contained in the Appendix.

VI. In order to test the efficiency of the instruction, on the results of which alone the payments are made to the teachers, the Science and Art Department holds, in May of each year, a public examination in every locality throughout the United Kingdom which complies with the requisite conditions. Application for this examination must be made to the Secretary of the Science and Art Department before the end of March in each year, stating the number of persons and the subject or subjects in which they are to be examined. Any persons whatever (except certificated teachers), whether taught by a certificated master or not, may present themselves at this examination on registering their names in time for the Local Committee to comply with these instructions and paying a registration fee of not more than 2s. 6d. They are eligible to receive Queen's prizes and Queen's medals, under the conditions hereinafter mentioned.

VII. Arrangements must therefore be made by the Committee of a Science School or Class to enable other candidates, besides the students in the class for which the Committee act, to present themselves at this examination. The registration fee of 2s. 6d., which such candidates may be required to pay, is to reimburse the Local Committee for any extra expenses incurred by such attendance, and may at their option be remitted.

VIII. A school or class taught by a teacher not holding a certificate, and which class is unable conveniently to attend the annual examination at a place where there is a certificated teacher, may, by applying to the Secretary of the Science and Art Department, be examined at the same time and in the same manner as the classes under certificated teachers;

* Such Examinations may be dispensed with in the case of any persons who may have given satisfactory proofs of their knowledge by having taken degrees, or published standard works, or made valuable original researches, &c.

provided that a Committee be formed who will, if necessary, carry out such of the directions as apply to examinations.

IX. If two or more classes in the same town, or within a reasonable distance of one another, apply for the examination of the Department of Science and Art, a general examination Committee must be formed by the amalgamation of the several Committees to carry out the examinations at some common centre, such as the Town Hall or other public building. It is only when the classes consist of 100 or more candidates that such amalgamation of the Committees will not be insisted on at present.

X. The Examiners will classify the successful candidates under the following heads, in lists which will be published :—

1. All those who have passed in each subject. The standard of attainment required being low, and only such as will justify the Examiner in reporting that the instruction has been sound, and that the students have benefited by it.
2. From among those who have *passed*, those who have attained a degree of proficiency in a subject qualifying them for honourable mention or a 1st, 2nd, or 3rd class Queen's prize, as the case may be.
3. The six most successful candidates in each group throughout the United Kingdom, if the degree of proficiency attained be sufficiently high to warrant their being recommended for Queen's medals.

XI. The Queen's prizes consist of books to be chosen by the candidates from lists furnished for that purpose, and are unlimited in number.

1. A student who has once received a 1st class Queen's prize cannot receive a prize in the same subject. If such student should be again successful, his name will simply be recorded in the published list.
2. A student who has once obtained a 2nd or 3rd class Queen's prize, can only at any future examination receive a prize in the same subject if he takes a 1st class Queen's prize.

XII. The Queen's medals are—one gold, two silver, and three bronze in each group for competition throughout the United Kingdom.

XIII. The payments are as follow :—The certificated teacher receives £1 for every student of the industrial classes who has received forty lessons from him in the subject in which the teacher is certificated, and passes in such subject of scientific instruction ; £2 for every one who is honourably mentioned ; and £3, £4, or £5 for every one who takes a Queen's prize, according to its grade. These students must have received forty lessons at least from the teacher since the last examination at which payment was claimed on their account. The forty lessons need not necessarily be all given in one year, but may extend over a longer period. Five pounds is the maximum that can ever be claimed on account of the instruction of any one pupil in a subject. That is to say for a pupil with a 1st class Queen's prize, for whom at a previous examination the teacher received £2 for an honourable mention, he can only

claim £3. If the same pupil had previously received a 3rd grade Queen's prize the teacher can only claim £2 on his account, and so on.

XIV. A grant towards the purchase of apparatus, diagrams, &c., of 50 per cent. on the cost of them, is made to science schools and classes in 'Mechanics' and similar institutions where the teacher is certificated, and to the extent of £5 to other poor schools and classes.

XV. Those teachers who are successful in obtaining certificates at the examination in November, at the Science and Art Department, have their expenses paid (second-class railway fare, and 10s. per diem for personal expenses for every day and night they are required to be in London).

XVI. All payments to certificated teachers on account of Science teaching are made by the Science and Art Department, and are only made in respect of a school or class in connection with the Science and Art Department. They do not apply to any instruction in Science that may be given during the three attendances of an Elementary School.

XVII. These grants are only made while the teacher is giving instruction in a day or evening school or class for the industrial classes (adults or boys), approved by the Science and Art Department, and open at any time to the visit and inspection of its officers.

XVIII. The certificated master of an Elementary School, *who has pupil-teachers apprenticed to him*, cannot receive the Science certificate allowance even if holding a Science certificate.

XIX. But certificated teachers of elementary schools who have not pupil-teachers apprenticed to them have their time out of school-hours at their own disposal, so far as official regulations are concerned, and may if further certificated in Science, give scientific instruction under the Science and Art Department.

APPENDIX H.

SCHOOLS OF ART.

The Committee of Privy Council on Education have issued a Minute dated 24th October, 1862, and which came into operation in January, 1863, of which the following are the principal features :—

It abolishes the payment on certificates for drawing held by Schoolmasters, and substitutes payment on results of the examination of pupils and Pupil-Teachers, as follows :—

1.—If a Schoolmaster be certificated to teach drawing, a payment of 2s. will be made to the Managers of the School on every child who passes examination in one or more subjects before the Art Inspector.—Also a payment of £1 for every Pupil-Teacher who passes examination in one subject.

2.—If the Schoolmaster be not certificated, a payment of 1s. will be made on every child passing examination, but no payment will be made on account of successful Pupil-Teachers.

These payments will be made to the Managers of Schools, on the following conditions:—

1.—The annual grants on success in drawing will only be made to those Schools in connection with a local School of Art, and all grants will be paid through the School of Art with which Schools may become connected.

2.—It will be necessary, therefore, that Schools which desire to take advantage of the Minute, should become eligible by connection with a School of Art, there being a form by which an application may be made for establishing this connection.

3.—The Committee will only undertake to distribute the payments on results to those Schools which have been registered as being connected with the School of Art, previous to the annual examination in each year, and where the drawing has been superintended by the Head Master of the School of Art, who will certify to the Committee that drawing is being taught to all children who learn to write, in the Schools claiming the payments for drawing.

4.—On these conditions, the Drawing Classes in Schools for the Poor, will be superintended by the Head Master of the School of Art, at no cost to the Schools themselves, but on payment of travelling expenses, when at some distance from the School of Art. Accommodation for an annual examination of pupils will be provided by the Committee, who will also undertake to obtain and distribute the grants of money, payable on results, to such schools as comply with the conditions above enumerated.

5.—All Schools examined by the Head Master of the School of Art will receive the elementary prizes offered by the Science and Art Department.

The Minute also states that every Pupil-Teacher, who passes at the mark Excellent, in one or more exercises of second grade, shall receive a reward of instruments, books, or drawing materials, of the value of 10s.

Also that in each year a limited number of Bronze Medals shall be awarded among the Teachers of Schools for the Poor, whose pupils have been most successful in the annual examinations.

It has been found by experience that those Schools are most successfully taught where the Schoolmaster himself takes an interest in the Drawing Class, and that no amount of care by the Teacher of Drawing will compensate for the want of interest in the Drawing Class on the part of the Schoolmaster himself. To be taught effectually drawing should have as much time given to it as writing. It is therefore suggested that in those Schools which are connected with the School of Art, a lesson should be given by the Schoolmaster and his Pupil-Teachers every week, in addition to that given by the Assistant Teacher from the School of Art. It has also been found that where drawing is taught systematically in a public school, every child who has been three years in the school, may, on leaving it, be very well acquainted with practical geometry, freehand drawing, and model

drawing. Such a knowledge of elementary drawing will enable a youth to represent accurately any simple object, either geometrically or by freehand sketching. The value of this power in after life need not be commented on. Workmen who are able to draw and understand drawings, invariably command higher wages than those who are ignorant of drawing. Instruction in drawing cannot commence too early. Children often acquire the power of drawing the recognisable form of an object before they are able to write their names.

APPENDIX I.

POPULAR RECREATIONS AT MECHANICS' INSTITUTES.

Although Mechanics' Institutions were primarily, ostensibly, and essentially designed to afford the means of instruction to the industrious population, it has been found that a very large proportion are not to be induced by the important advantages of mental cultivation to make the necessary application. They are too strongly attracted by amusement to regard instruction, and to the many the Mechanics' Institute has been established in vain. Under these circumstances it is a question deserving of attentive consideration whether the Committee of the Institute might not increase its usefulness, and more efficiently promote its chief object, by providing, as far as possible, various kinds of recreation and amusement suitable to the tastes and habits of the people in each locality, so as to bring as many as possible within the civilising influences of the other departments of the Institute. For this purpose it is not necessary, nor would it be desirable, that the Institute should forego or even abate any of its present educational features. The important question of providing healthy and rational recreation for our working population has been too much neglected, and there can be little doubt that the fault may be remedied with considerable advantage.

As one of the difficulties with which Institutes have to contend is that of retaining their members and class-pupils during the Summer, when open-air exercise offers many inducements to spend the leisure hours of evening in the fields, it may be advisable for the Committee to organise a Cricket-class, and provide the necessary apparatus, making membership a qualification for joining in the play, whilst occasional friendly contests with neighbouring Institutes would give additional zest to the proceedings, and promote emulation to excel. In localities where there is a broad river or spacious water surface in the neighbourhood, rowing would be a healthful amusement as well as beneficial exercise. In other places there might be foot-races, and such other athletic sports as may be consonant to the habits and customs of the people, with occasional excursions to objects of interest, and the promotion of studies in botany, geology, and cognate sciences. Instruction and recreation might thus be combined, and the Institute made

practically useful in combining for mutual improvement the majority of the working population.

For recreation during winter, the Committee should provide a conversation-room in which the members may be more at liberty to gratify their inclinations than in the enforced silence of the reading-room. For amusements they might resort to chess, draughts, and similar games of skill whilst some would prefer social intercourse; and as the chief object is to offer a counter attraction to the public-house, and its debasing influences, smoking, though not encouraged, need not be forbidden. The design is not educational, but simply to provide accommodation for those who would otherwise seek for the comforts of warmth, light, and companions in worse places. Little progress may be made in mental improvement, but some advantage will have been gained in bringing within the influence of the Institute a great number who might not otherwise have been reached. Games of skill require some exercise of the mental faculties, and if those who are attracted to the conversation or club-room gain little more than being kept away from the public-house the change will be in the right direction.

Another source of attraction may be found in the reading aloud of extracts from the works of popular authors, both in prose and poetry. Such entertainments have proved very successful, and remunerative also by a charge of one penny for admission, and many gentlemen would willingly undertake the duty of reading for twenty minutes or half-an-hour, whilst the change of voice and subject from one to another would prove an agreeable variety. The readings might also be pleasantly varied with music, either vocal or instrumental.

There are many young men who take delight in discussion; and the habit of extempore speaking, which is a really intellectual exercise, might be promoted by the establishment of an Essay and Discussion Class, in which each member in turn should engage to read a short original essay on some subject of literary, historical, scientific, or general interest, and only those who had so engaged be permitted to take part in the subsequent discussion. The Committee might decide on a list of proper questions, forbidding all those on controversial theology, party politics, or of a nature to excite personal feelings. Each member should be limited to about ten minutes, and the chairman should decide all points of order.

Lectures of an amusing character might be made an attractive change from those of a more instructive kind, and occasional miscellaneous concerts would also promote that more general attendance of the members which is so desirable in all Institutes. Periodical gatherings at frequent intervals tend to keep the Institute in the public mind, and to enhance the general interest in its welfare, which is indispensable to the success of its educational efforts. The difficulty so often complained of in obtaining a numerous audience at occasional lectures most frequently arises from the uncertain and irregular times at which they are delivered, but this might be greatly, if not altogether, obviated by selecting a particular evening and having a regular weekly entertain-

ment which might be varied by lectures, popular readings, discussions, and concerts. The inhabitants would soon acquire a habit of attending, and the Institute would be a constant weekly engagement. Such a course would also be beneficial in a pecuniary sense, for not only would it add to the number of subscribers, but many others would be induced by an active personal canvass to take season tickets at a moderate price.

Perhaps the most delightful recreation would be found in the practice of vocal music, and for this purpose a class should be formed for the systematic instruction of the members. They might commence with the simplest chants to be followed by psalm and hymn tunes, and as they improved in skill and acquired proficiency they might practise anthems, and the choruses of Handel, and other composers. Nor need their efforts be confined to sacred music, as the same skill would enable them to take part in glees, madrigals, and other secular compositions until the Institute would be able to rely on the singing class for the musical attractions of the annual *soirée* or occasional concert. A class might also be formed for the practice of instrumental music with similar beneficial results, and the performance of a brass band might be made an agreeable auxiliary at the commencement and termination of a lecture.

In large towns the Saturday evening, after the payment of wages, has been too often employed by working men in a resort to public-house concerts, music-halls, saloons, cheap theatres, and similar entertainments. Much of this evil might be obviated by the Committee of the Institute providing recreation of a similar kind without the debasing accessories. The entertainment might comprise vocal and instrumental music with occasional readings and recitations, and very many of our working men would soon find they could have all the enjoyment with much less expenditure both of money and health. In several towns the experiment has been tried and found to be highly successful.

The field for choice of recreation comprises a great variety of amusements adapted to Summer as well as Winter, and as far as possible suited to all tastes, to the youth and to the adult. Success can only be achieved by every attempt being made in a cheerful and hopeful spirit, not succumbing too readily to apparant obstacles, but with a reasonable amount of perseverance. Immediate results must not be too confidently expected, but if with the same trustful hope and unwearied patience with which so many have devoted themselves to the work of adult education, they endeavour to induce the working man to seek for his recreation in the Institute, the labour will not have been thrown away.

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